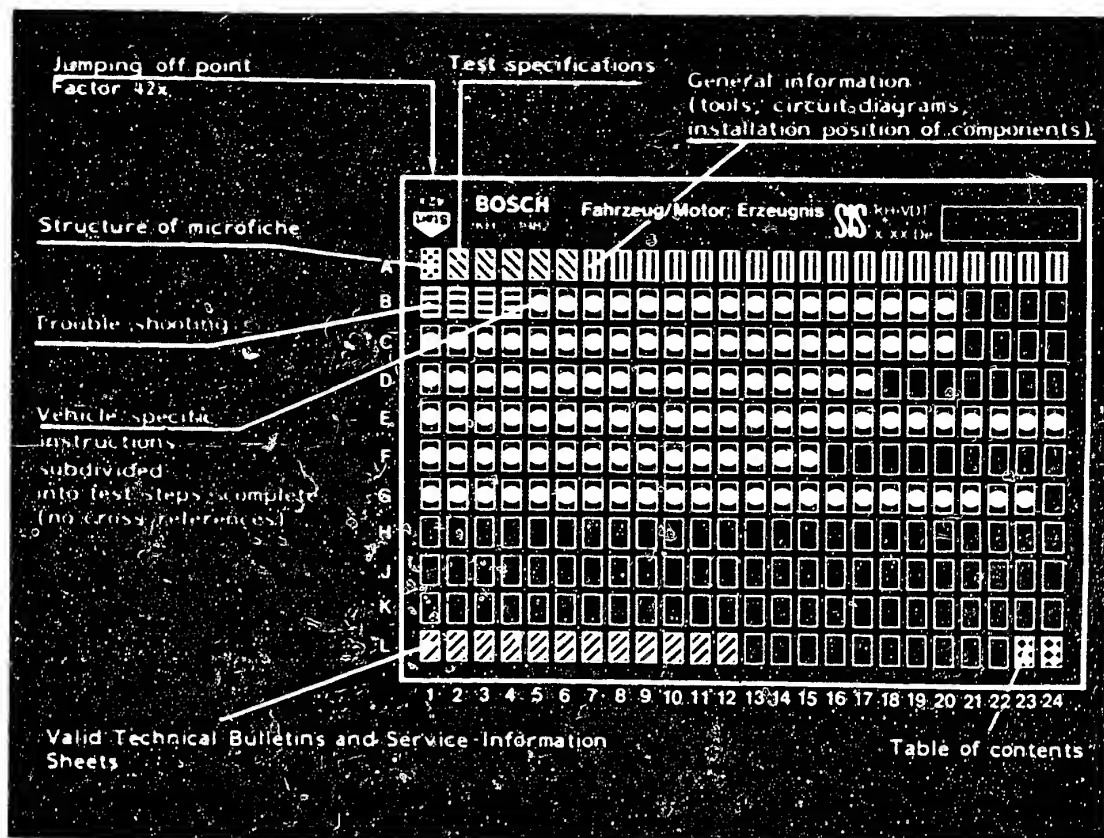


Microfiche layout



1. Read from left to right
2. Title of microfiche (appears on each coordinate)

E 16	Product/assembly/test step	
	Vehicle/engine	

Coordinate

3. Limits of section



Beginning



Mid-section



End



One-page section

4. Purely vehicle-specific passages in the text are marked with a vertical bar.

5. Reference to relevant working steps in the test specifications, e.g. coordinate C6.

C 6

A1

Trouble-Shooting Plan



1. Test specifications

1.1 Electric fuel pump

C3

Test step

Test specifications

Fuel delivery:

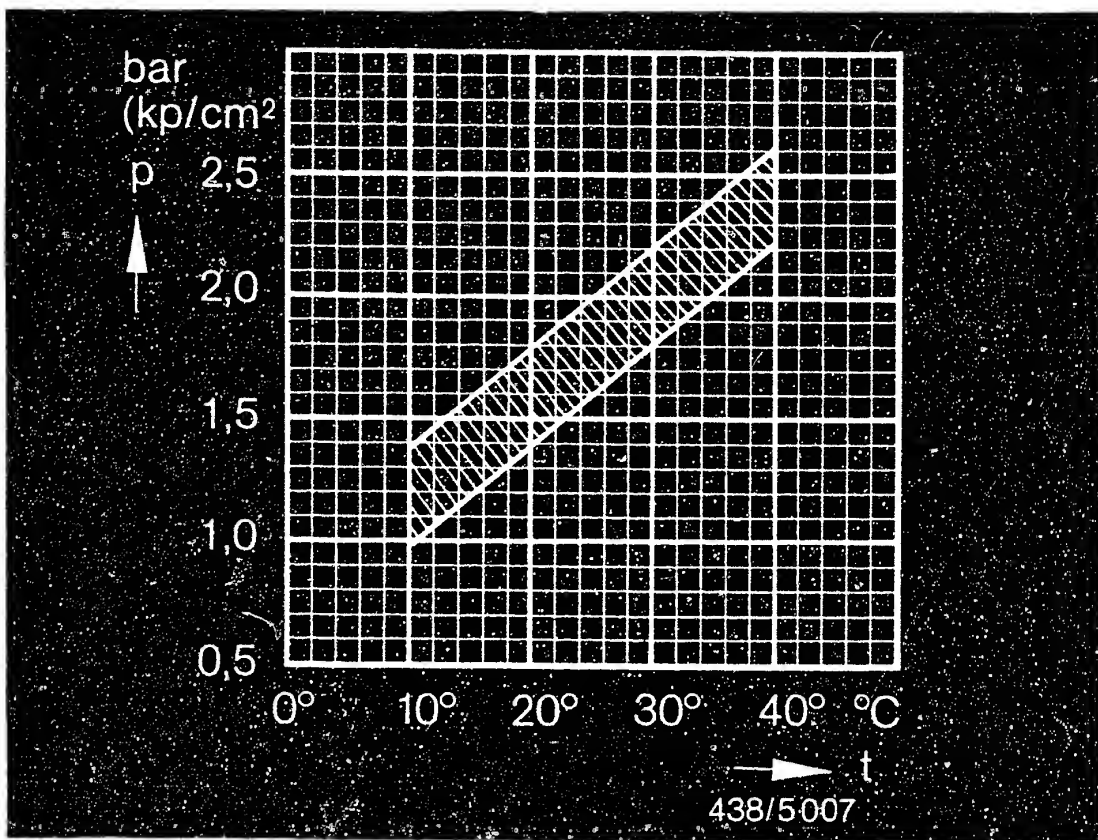
min. 950 cm³/30 s

A2

Test specifications

Peugeot 604 Ti, 504 Ti Coupé





p = Control pressure (gauge pressure)
t = Ambient temperature

1.2 Control pressure "Cold"

C12

For testing, connect vacuum pump to intake-manifold-pressure connection of warm-up regulator.

Setting value: 510...550 mbar
(385...415 mmHg)

- Part no. of warm-up regulator: 0 438 140 047

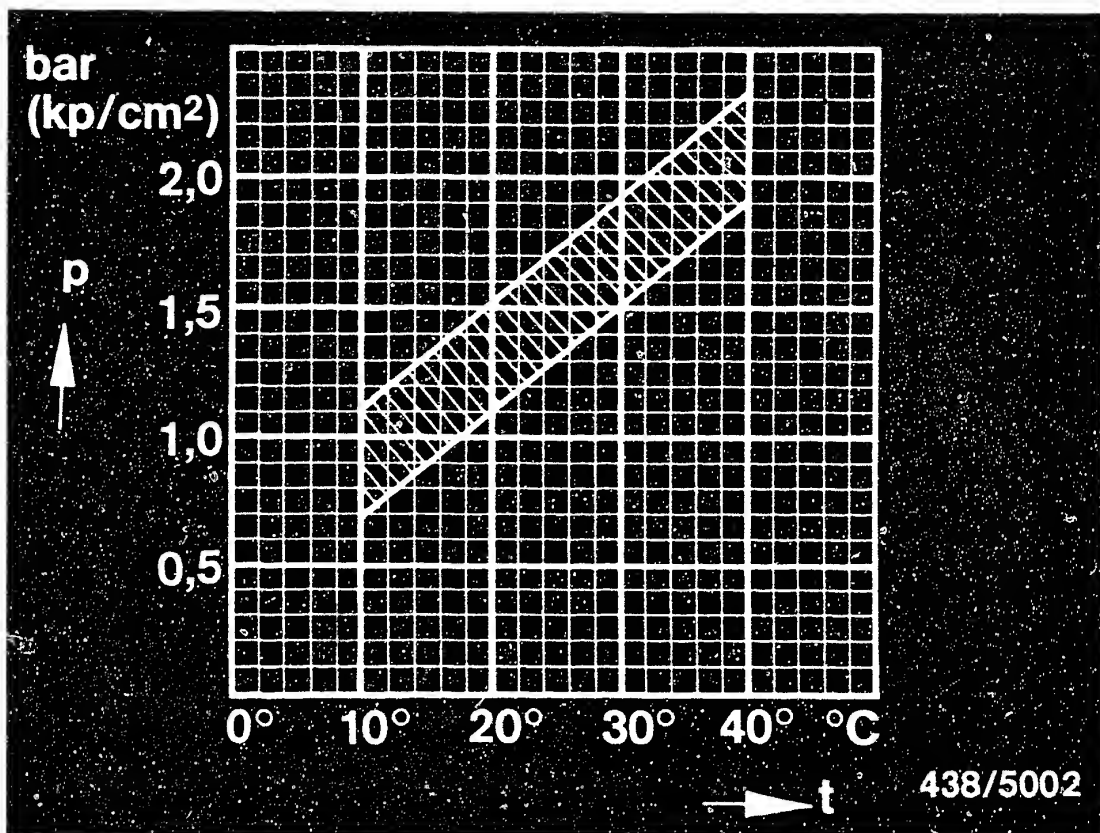
(Version for intake-manifold-pressure-controlled full-load enrichment)

A3

Test specifications

Peugeot 604 Ti, 504 Ti Coupé





p = Control pressure (gauge pressure)
t = Ambient temperature

Control pressure "cold"

C12

For testing, connect vacuum pump to intake-manifold pressure connection of warm-up regulator.
Setting value: 510... 550 mbar (385...415 mmHg)

- Part no. of warm-up regulator: 0 438 140 038

(Version for intake-manifold-pressure-controlled full-load enrichment).

A4

Test specifications

Peugeot 504 Ti, 504 Ti Coupé



1.3 Control pressure "Warm"

Part no. of warm-up regulator: 0 438 140 038
(Version for intake-manifold-pressure-controlled full-load enrichment)

- Test at atmospheric pressure
(Without vacuum):
0 438 140 047 2.8...3.2 bar (2.9...3.3 kgf/cm²)
0 438 140 038 3.0...3.4 bar (3.1...3.5 kgf/cm²)
- For testing, connect vacuum pump to intake-manifold-pressure connection of warm-up regulator.

Setting values:
510...550 mbar
(385...415 mmHg): 3.4...3.8 bar (3.5...3.9 kgf/cm²)
- Leak test on full-load diaphragm
Maximum pressure drop from setting value: 100 mbar (75 mmHg)/15s

*Pressures in the test-specification table are given in bar (gauge pressure) and/or in kgf/cm² (gauge pressure).



1.4 Primary pressure**D5**

Fuel distributor

0 438 100 035 test value 4.5...5.2bar (4.6...5.3kgf/cm²)
 setting value 4.7...4.9bar (4.8...5.0kgf/cm²)

0 438 100 120 test value 4.7...5.4bar (4.8...5.5kgf/cm²)
 setting value 4.9...5.1bar (5.0...5.2kgf/cm²)

1.5 Leakage test**D13**

	Fuel accumulator		
Min. pressure	0 438 170 014 (78/79 model)	0 438 170 010 (80 model →)	0 438 170 034 (82 model →)
after 10 min	1.6 bar (1.7 kgf/cm ²)	2.0 bar (2.1 kgf/cm ²)	2.7 bar (2.8 kgf/cm ²)
after 20 min	1.4 bar (1.5 kgf/cm ²)	1.7 bar (1.8 kgf/cm ²)	2.6 bar (2.7 kgf/cm ²)

1.6 Injection valves**E5**

Opening pressure

0 437 502 013 2.7...3.8 bar (2.8...3.9 kgf/cm²)
 0 437 502 022 3.0...4.1 bar (3.1...4.2 kgf/cm²)

* Pressures in the test sheet are given in bar (gauge pressure) and/or kgf/cm² (gauge pressure).



Test step

Test specifications

1.7 Fuel distributor**E14**

Comparative measurement of the fuel deliveries:

- Fuel-distributor part-number: 0 438 100 035
0 438 100 120

	Setting point	Max. permissible delivery
Idle	6.0 cm ³ /min	6.8 cm ³ /min
Part load	40.0 cm ³ /min	44.0 cm ³ /min
Full load	145.0 cm ³ /min	160.0 cm ³ /min

1.8 Idle adjustment ***F2**

- Idle speed: 850...950 min⁻¹
- Co-content:
for each row of cylinders 1.5...2.5 vol. % CO

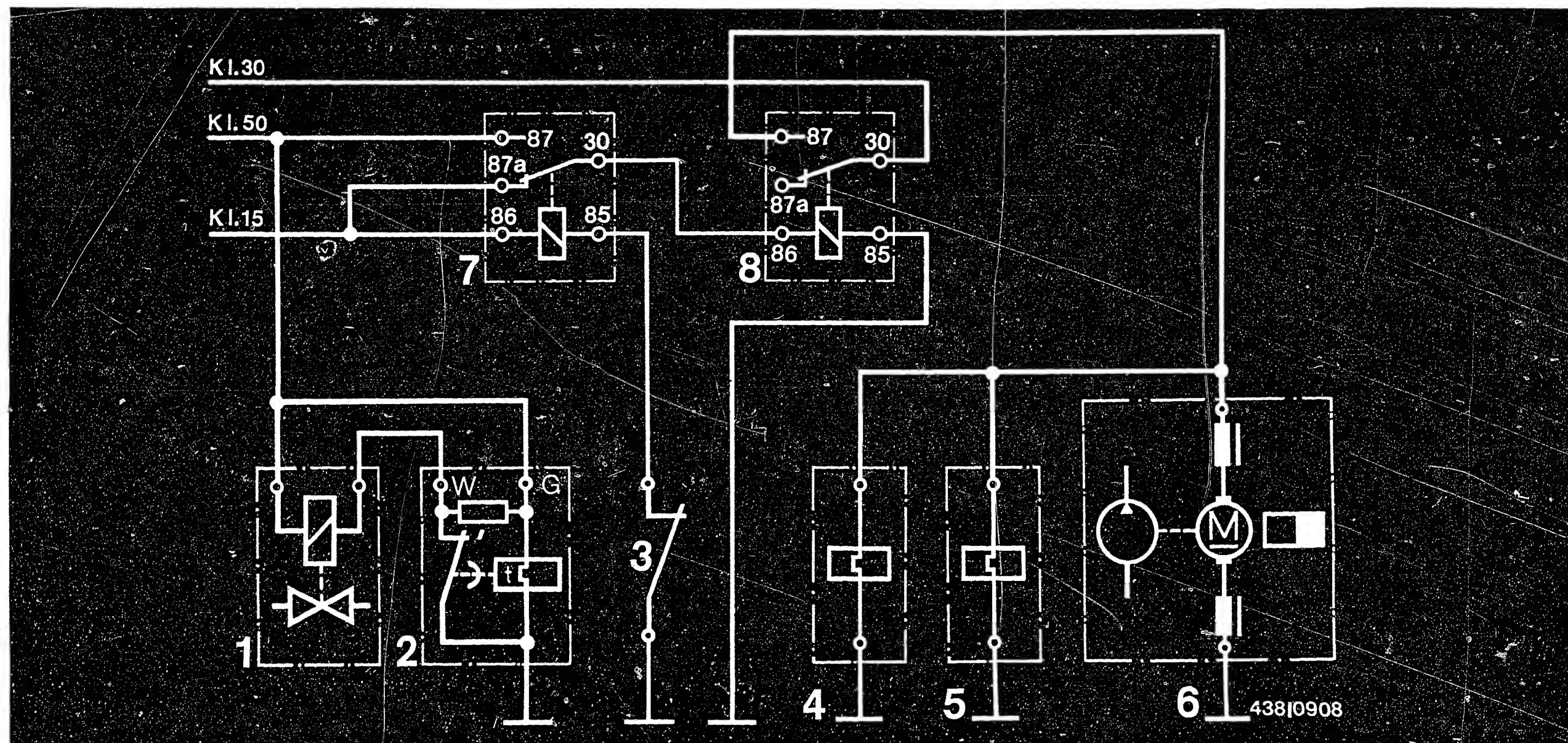
* Engine in warm operating condition
Air-conditioning switched off.

A7

Test specifications

Peugeot 604 Ti, 504 Ti Coupé





1 = Start valve
2 = Thermo-time switch

3 = Air-flow sensor - contact
4 = Warm-up regulator

5 = Auxiliary-air device
6 = Electric fuel-pump

7 = Relay I
8 = Relay II

2. Electrical safety circuit

2.1 Circuit diagrams

- Vehicles up to date of construction - beginning of 1979

The safety circuit corresponds to the earlier basic design. It operates with two relays and the air-flow sensor contact. The safety circuit is bridged by pulling out the plug from the air-flow sensor contact and switching on the ignition.

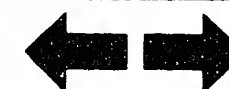
A8

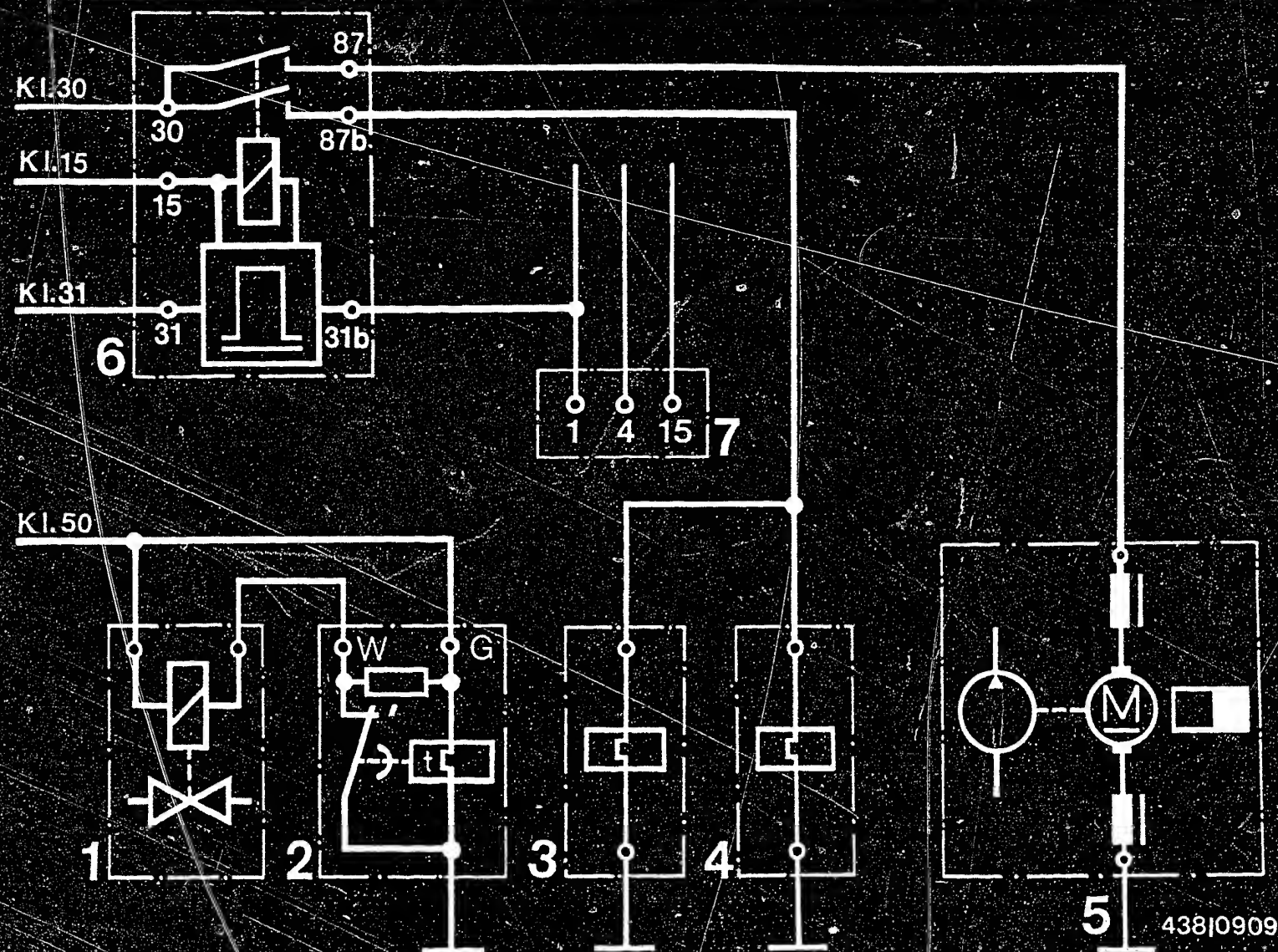
Electrical safety circuit
Peugeot 604 Ti, 504 Ti Coupé



A9

Electrical safety circuit
Peugeot 604 Ti, 504 Ti Coupé





1 = Start valve
2 = Thermo-time switch

3 = Warm-up regulator
4 = Auxiliary-air device

5 = Electric fuel pump
6 = Electronic relay

7 = Ignition coil

• Vehicles built after the beginning of 1979

The safety circuit operates with an electronic relay which is controlled from terminal 1 of the ignition coil. It has two separate outputs - terminals 87 and 87b.

The electronic relay was introduced as follows: 604 V6 Ti
504 V6 Ti Coupé

as from February 1979
as from March 1979

A10

Electrical safety circuit

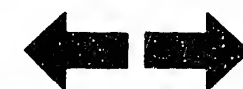
Peugeot 604 Ti, 504 Ti Coupé

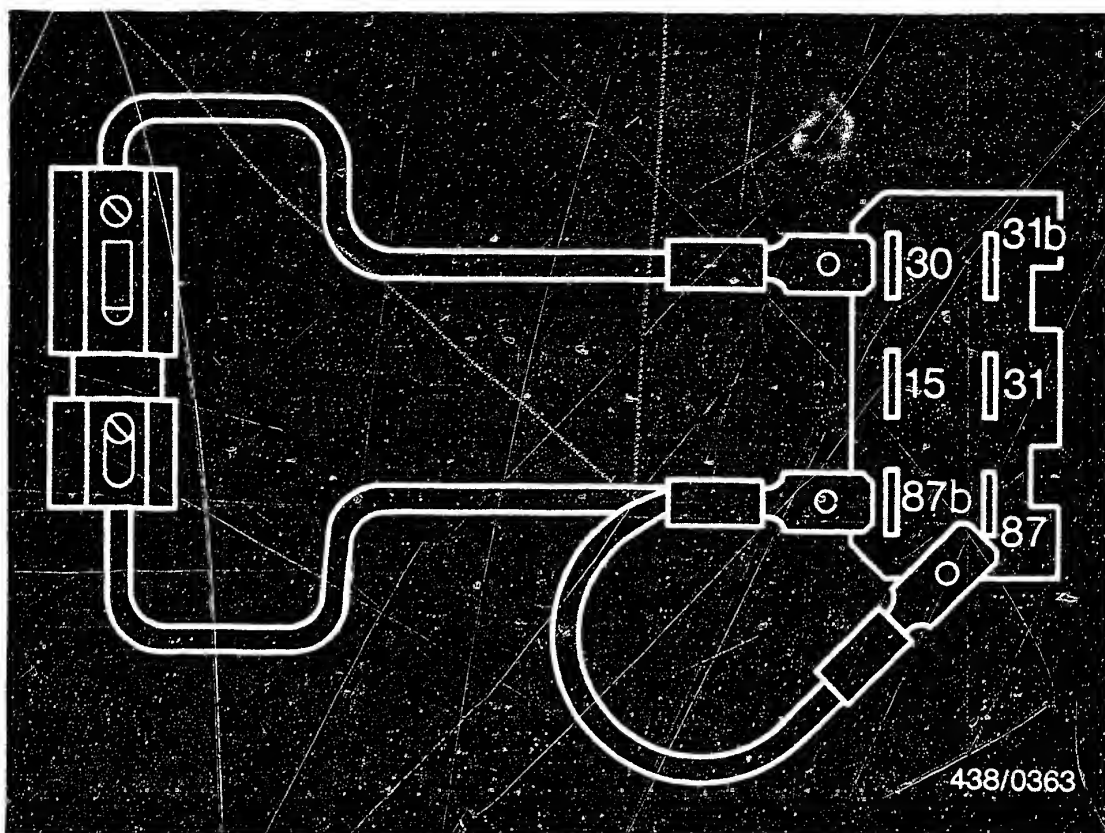


A11

Electrical safety circuit

Peugeot 604 Ti, 504 Ti Coupé





2.2 Bridging the safety circuit

In order to carry out the tests with the engine stationary, the safety circuit should be bridged.

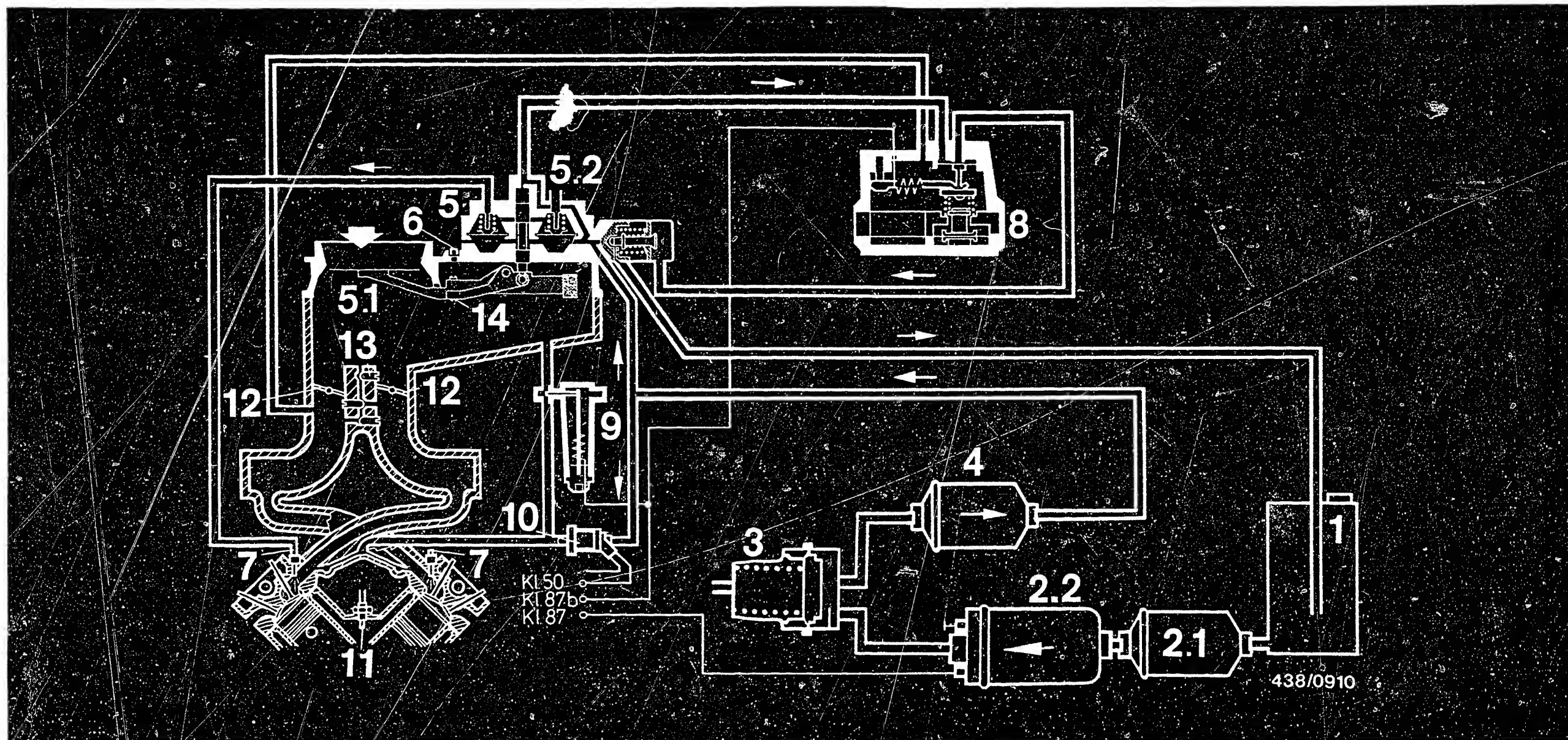
In vehicles constructed after the beginning of 1979, the electronic relay under the instrument panel must be pulled out of its base.

Using a double bridge, connect contacts 87 and 87b with contact 30 in the base.

Use a connecting cable 1.5 mm² with a fuse element and a 16 A fuse.

In this way the electric fuel-pump, the warm-up regulator and the auxiliary-air device are supplied with battery voltage.





3. Diagram of fuel lines

- | | | |
|--------------------------|--------------------------|---|
| 1 = Fuel tank | 5.1 = Air-flow sensor | 10 = Start valve |
| 2.1 = Fuel pre-filter | 5.2 = Fuel distributor | 11 = Thermo-time switch |
| 2.2 = Electric fuel pump | 6 = Fuse cap | 12 = Throttle valve |
| 3 = Fuel accumulator | 7 = Injection valve | 13 = Idle-speed-adjusting screw (bypass) |
| 4 = Fuel filter | 8 = Warm-up regulator | 14 = Idle-mixture screw |
| 5 = Mixture-control unit | 9 = Auxiliary-air device | 15 = Primary-pressure regulator with push valve |

A13

Diagram of fuel lines
Peugeot 604 Ti, 504 Ti Coupé



A14

Diagram of fuel lines
Peugeot 604 Ti, 504 Ti Coupé



4. General Information

4.1 Introduction

The Peugeot 604 Ti and 504 Ti Coupé, as from the 1973 model, are equipped with the 2.7l/6-cylinder K-Jetronic V-engine.

The Peugeot 604 Ti and Talbot Tagora versions for Sweden and Switzerland are being equipped with the 2.8l/6-cylinder V-engines as from the 1982 model.

This repair manual refers only to the above-mentioned vehicles and gives a concise description of the testing and adjustment operations to be performed on the vehicle on the K-Jetronic.

All the system components are dealt with in separate working steps with the corresponding test specifications. In addition to this repair manual the appropriate testing and repair manuals will, of course, be issued for every other vehicle type equipped with the K-Jetronic.

The K-Jetronic differs from other known fuel-injection systems in terms of both construction and operation. In order to be able to carry out the testing procedures described in this manual - and therefore to be able to assess the components - the K-Jetronic and its operation should be clearly understood. The essential points of the operation and construction of the K-Jetronic are described in Technical Instruction VDT-U 3/1 En.



When trouble-shooting the K-Jetronic, it is assumed that the ignition is in order and that the engine is in proper mechanical condition.

The individual test steps of this repair manual are detailed and self-contained. This permits direct trouble-shooting without having to go through the entire test program for each fault.

The trouble-shooting chart on Coordinates B 1 - B 4 is intended to make it easier to decide which test steps have to be carried out for certain faults.

According to the symptom stated by the customer or which you yourself have determined, select the possible cause in the trouble-shooting chart. The coordinate at the end of the cause column refers to the appropriate test step with the associated test specification.

Important note:

If any fuel connections are loosened, parts removed, also on the vacuum system, always use new seals when re-connecting or re-installing.

Ensure utmost cleanliness when working on the K-Jetronic. Fuel connections must be cleaned thoroughly on the outside before opening.



4.2 Design

The entire system of the K-Jetronic in these vehicle types corresponds, with the exception of the differences listed below, to the basic design as described in Technical Instruction VDT-U 3/1 En.

4.3 Differences:

- Fuel pre-filter (non-Bosch product) fitted up-stream of the electric fuel pump. When testing the electric fuel pump (fuel delivery test), any possible influence of the fuel pre-filter is to be taken into consideration.
- Electric fuel pump with replaceable non-return valve.
- Fuel accumulator with doubled storage volume (40 cm³). The spring chamber is vented to the atmosphere.
- 6-cylinder-mixture-control unit with downdraft air-flow sensor.



- Warm-up regulator 0 438 140 047 and 0 438 140 038 for intake-manifold-pressure controlled full-load enrichment.
Intake-manifold pressure connection on the top part of the housing.
- Electrical safety circuits

Until the beginning of 1979 the safety circuit corresponded to the earlier basic circuit (two relays and air-flow sensor contact).

Since the beginning of 1979 the safety circuit has been working with an electronic relay which is controlled from terminal 1 of the ignition coil. It has two outputs (terminals 87 and 87b).

With both safety circuits the electric fuel-pump, the warm-up regulator and the auxiliary-air device are controlled by the appropriate relays. In this way the electric fuel-pump cannot operate with the engine stationary and the ignition switched on. Neither can the warm-up regulator and the auxiliary-air device cut out too soon.

- Strainer in the fitting of the fuel-distributor inlet.
- Vehicles with air-conditioning are fitted with an electric air-valve for speed stabilization.



5. Test equipment and tools

- Pressure tester KDJE-P 100 (previously KDEP 1034)
For testing all fuel pressures and testing for leaks.
- Connecting-parts set KDJE-P 100/10 (previously KDEP 1034/10)
For connecting pressure tester to the control-pressure port of the fuel distributor
- Adjusting wrench KDEP 1035
For adjusting the idle-mixture-adjusting screw in the mixture-control unit (CO-adjustment)
- Guide ring KDEP 1040/10 (dia. 80 mm)
For centering the air-flow sensor plate in the air-flow sensor
- Tester for delivered quantity comparisor KDJE-P 200 (previously KDJE 7451)
For comparing the fuel delivered from the individual fuel-distributor outlets.
- Graduate (commercially available, capacity approx. 1,5 l)
For measuring the delivery of the electric fuel pump.
- Electric connecting cable (test lead)
KDJE 7450/70 for the direct connection of components to be tested, e.g. cold-start valve
- Set of tools for the removal and fitting of idle-CO-anti-tamper device of air-flow sensor
(e.g. No. 131090 from the firm Cartool, Hans Schubert KG, Unterer Grasweg 88/88070 Ingolstadt).
- Setting device KDJE 7455
For deflecting the sensor plate (downdraft air-flow sensor) when carrying out the comparative measurement of fuel delivery at the fuel-distributor outlets.



- Valve tester KDJE-P 400 (previously KDJE 7452).
For testing the injection valves.

Test media: Calibrating fluid (Shell K 30, Esso-
Varsol, Shell Mineral Spirits 135) or
Bosch, Part Designation VS 14942-CH
(previously Part No. 5 973 340 650)
The Bosch calibrating fluid can be ob-
tained in 5 l metal cans from the
following supplier:
Oskar Gnamm GmbH & Co
D-7531 Kämpfelbach-Bilfingen

Caution:

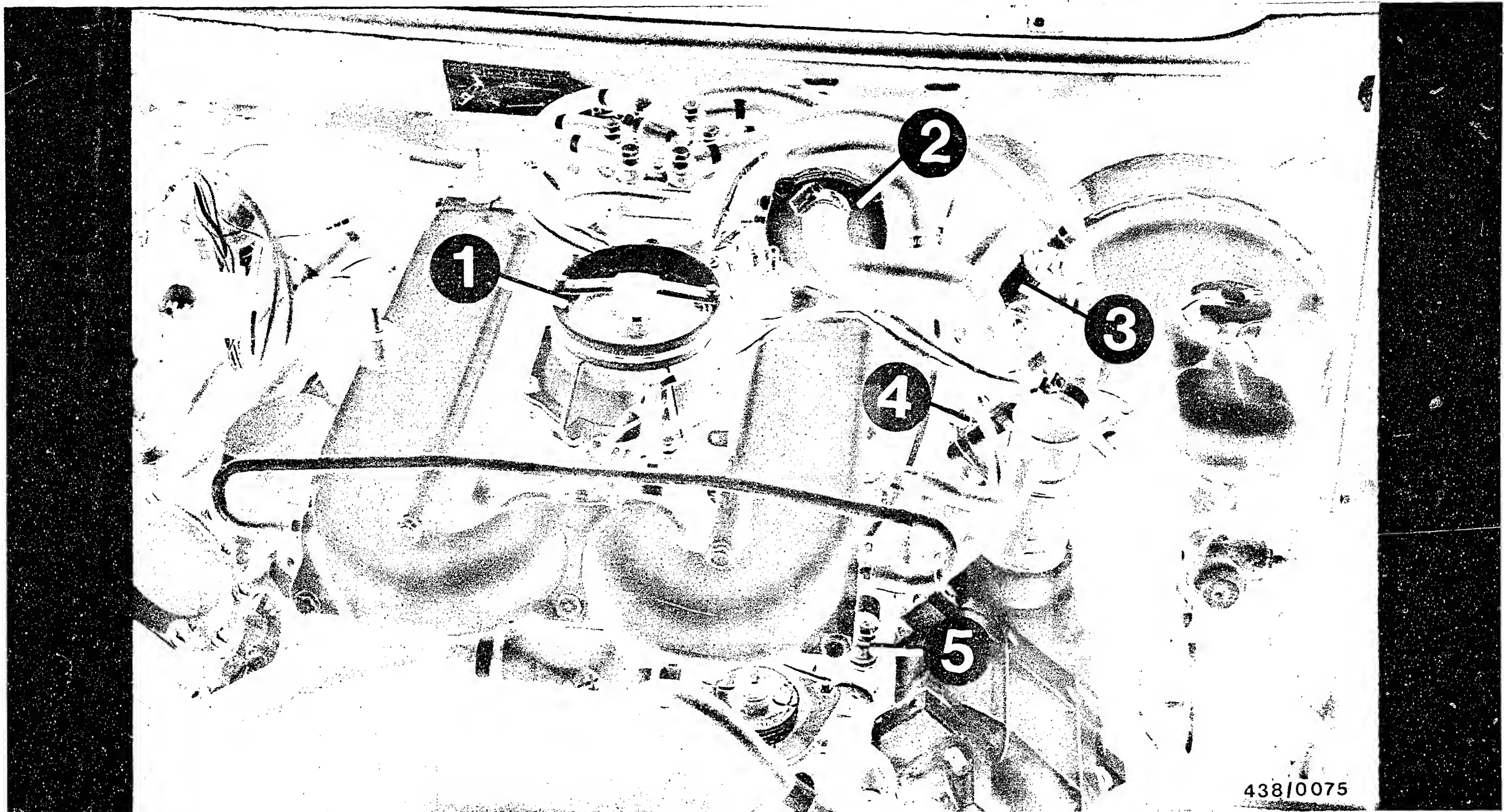
For safety reasons, never use normal gasoline or
similar easily inflammable and combustible liquids.
Even with calibrating fluid, be sure to observe
the local official regulators.

- Tachometer (commercially available)
For idle-speed adjustment
- CO meter (commercially available)
For idle-speed CO adjustment
- Vacuum pump (commercially available)
For testing the warm-up regulators with full-load
enrichment dependent on intake-manifold pressure, e.g.
the vacuum hand-operated pump from

Firma Korinth
Ludwig-Kloos-Strasse 21
6450 Hanau 7 (Steinheim)

- Set of tools for the removal and fitting of idle-
CO-anti-tamper device of air-flow sensor.
(e.g. No. 131090 from the firm Cartool, Hans Schubert
KG, Unterer Grasweg 88/D-8070 Ingoldstadt).
- Setting device KDJE 7456
For deflecting the sensor plate (downdraft air-flow
sensor) when carrying out the comparative measure-
ment of fuel delivery at the fuel-distributor out-
lets.





6. Installation position of the individual components

6.1 Arrangement of the components in the engine

(Air filter removed)

1 = Mixture-control unit
2 = Auxiliary-air device
3 = Start valve

4 = Warm-up regulator
5 = Fuel-injection valve

A21

Installation position of the components
Peugeot 604 Ti, 504 Ti Coupé



A22

Installation position of the components
Peugeot 604 Ti, 504 Ti Coupé





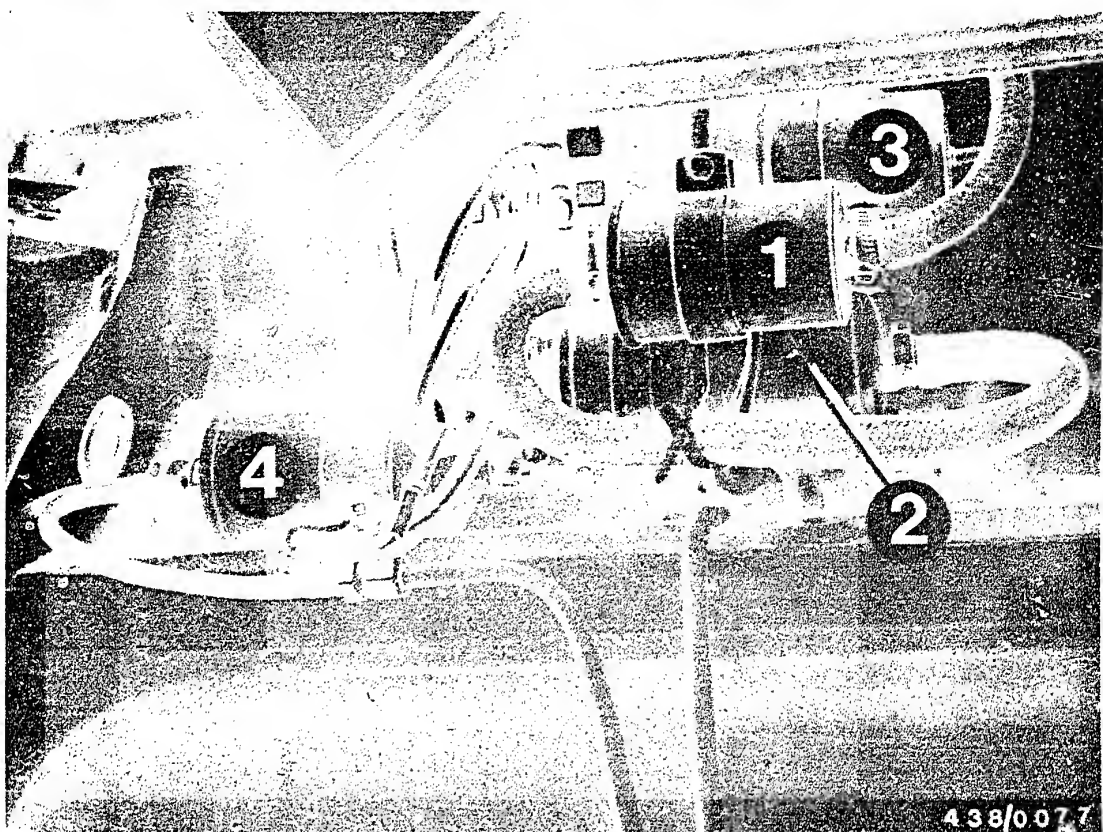
Thermo-time switch (arrow)

A23

Installation position of the components

Peugeot 604 Ti, 504 Ti Coupé





1 = Prefilter

3 = Fuel accumulator

2 = Electric fuel-pump

4 = Fuel filter

6.2 Components for the fuel supply

The prefilter, electric fuel-pump and fuel accumulator are situated on a common support in front of the rear axle, on the left in the direction of travel.

The fuel filter is fastened to the vehicle floor with a clamp.

When one of these components is to be exchanged, the connections should be thoroughly cleaned.

Disconnect the suction hose of the electric fuel pump before loosening the connections and seal the hose off to prevent fuel from running out (e.g. with Matra spring clip W 157).



7. Trouble-shooting chart (see also Coordinates (B 3/B 4)

Customer complaint (fault symptom)

1. Engine does not start, or starts poorly, in cold condition
2. Engine does not start, or starts poorly, in warm condition*
3. Irregular idling during the warm-up phase (shakes)
4. Irregular idling with warm engine (shakes)
5. Engine does not draw gas, burbles
6. Engine misfires when operating on the road, high load
7. Insufficient power

*Note:

If, in the case of Symptom 2, after checking and repairing all the fault causes listed below, the hot-start characteristic is still unsatisfactory this can be improved by fitting an impulse relay. The fitting of this relay is described in Coordinates L 5.

							Cause	Coordinates
	●	●	●	●		●	Vacuum system leaking	B 5
●	●		●	●	●	●	Air-flow sensor lever and/or control plunger not moving smoothly	B 7
	●						Position of the air-flow sensor plate incorrect	B 16
●		●					Auxiliary-air device does not open	C 1
●	●				●		Electric fuel pump not operating	C 3
●							Cold-start system defective	C 8
		●	●				Cold-start valve leaking	C 10
				●			Excessive fuel delivery for control-pressure circuit	C 14
●		●					"Cold" control pressure outside tolerance	C 12
	●		●	●	●	●	"Warm" control pressure too high (after warm-up)	C 12
			●	●		●	"Warm" control pressure too low (after warm-up)	C 12
					●	●	Primary (system) pressure outside tolerance	D 5
	●						Overall fuel system leaking	D 13
●	●	●	●		●		Injection valves leaking, opening pressure too low	E 5
●	●	●	●			●	Unequal fuel delivery (imbalance of fuel delivery)	E 14
●	●	●	●	●			Basic idle adjustment incorrect	F 2
						●	Throttle plate does not open completely	---

B1

Trouble-shooting chart

Peugeot 604 Ti, 504 Ti Coupé



B2

Trouble-shooting chart

Peugeot 604 Ti, 504 Ti Coupé



8. Engine runs on after being switched off ("diesels")

9. Fuel consumption too high

10. Flat spot during acceleration

11. CO concentration during idling too high

12. CO concentration during idling too low

13. Idle-speed cannot be adjusted (too high)

14. Engine starts but then immediately stops

Cause							Coordinates
		●		●			B 5
●		●	●	●			B 7
●							B 16
							C 1
					●		C 1
						●	C 3
							C 8
●	●		●				C 10
		●				●	C 14
		●				●	C 12
	●	●	●			●	C 12
		●				●	D 5
							D 13
●							E 5
		●					E 14
●	●	●	●	●			F 2

B3

Trouble-shooting chart

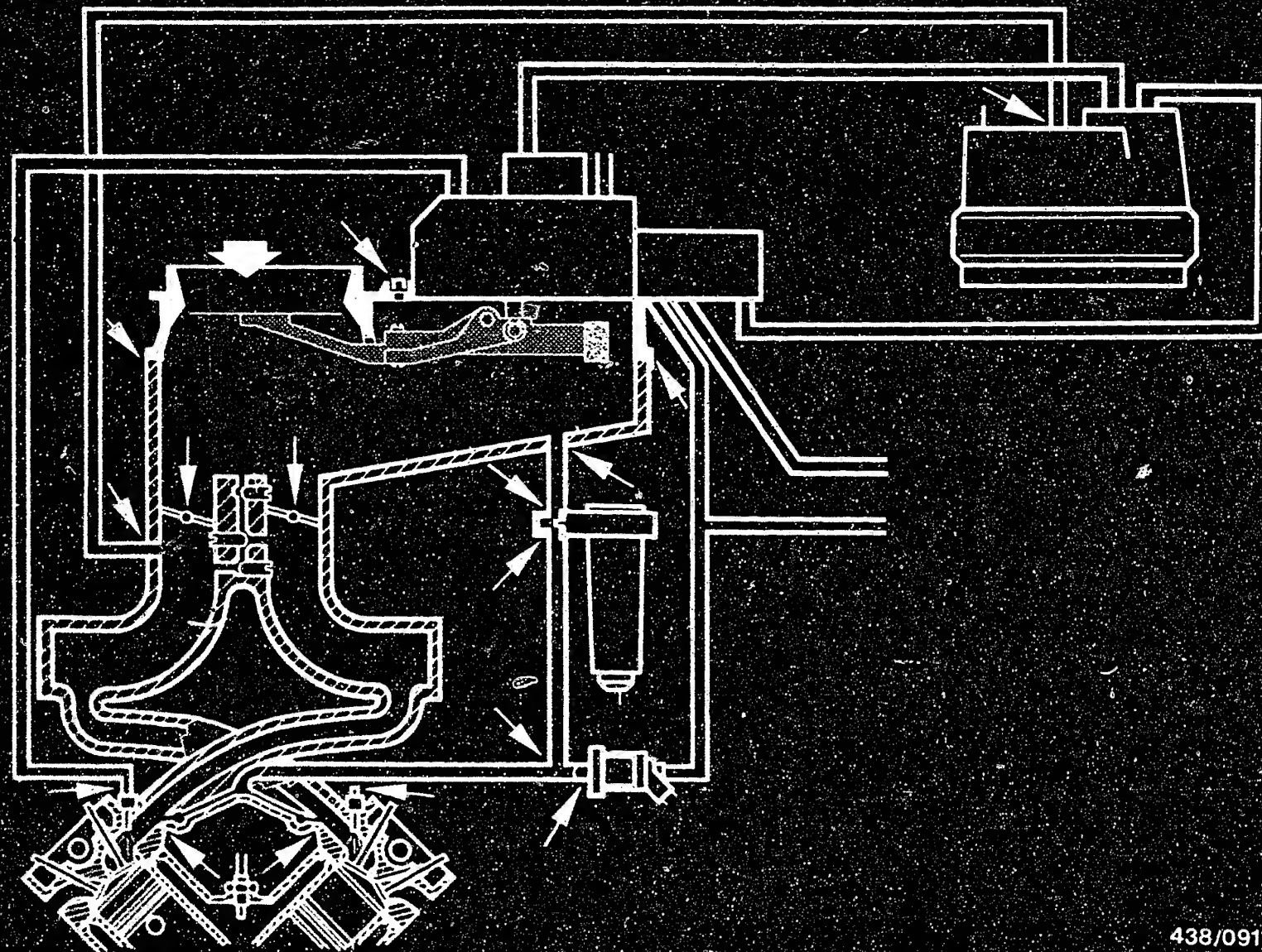
Peugeot 604 Ti, 504 Ti Coupé

**B4**

Trouble-shooting chart

Peugeot 604 Ti, 504 Ti Coupé





438/0911

Working steps

8. Check the air-intake system of the engine for leaks.

The arrows in the diagram show typical points where leaks can occur. Check by performing a visual inspection or, in cases of doubt, as follows: Disconnect the hose from the outlet of the auxiliary-air device and blow air through this hose into the intake system using a compressed-air gun. The throttle valve is to be fully open. Brush connection points with soapy water, or spray with leak detector (e.g. Gupoflex).

Under no circumstances may combustible liquids be used when testing for leaks.

The formation of bubbles or foam indicates a leak.

If a leak has been eliminated, it is necessary finally to adjust the idle speed with the engine at normal operating temperature:

Idle-speed adjustment is described on Coordinates F 2.

B5

Leak test on air-intakte system

Peugeot 604 Ti, 504 Ti Coupé



B6

Leak test on air-intakt system

Peugeot 604 Ti, 504 Ti Coupé

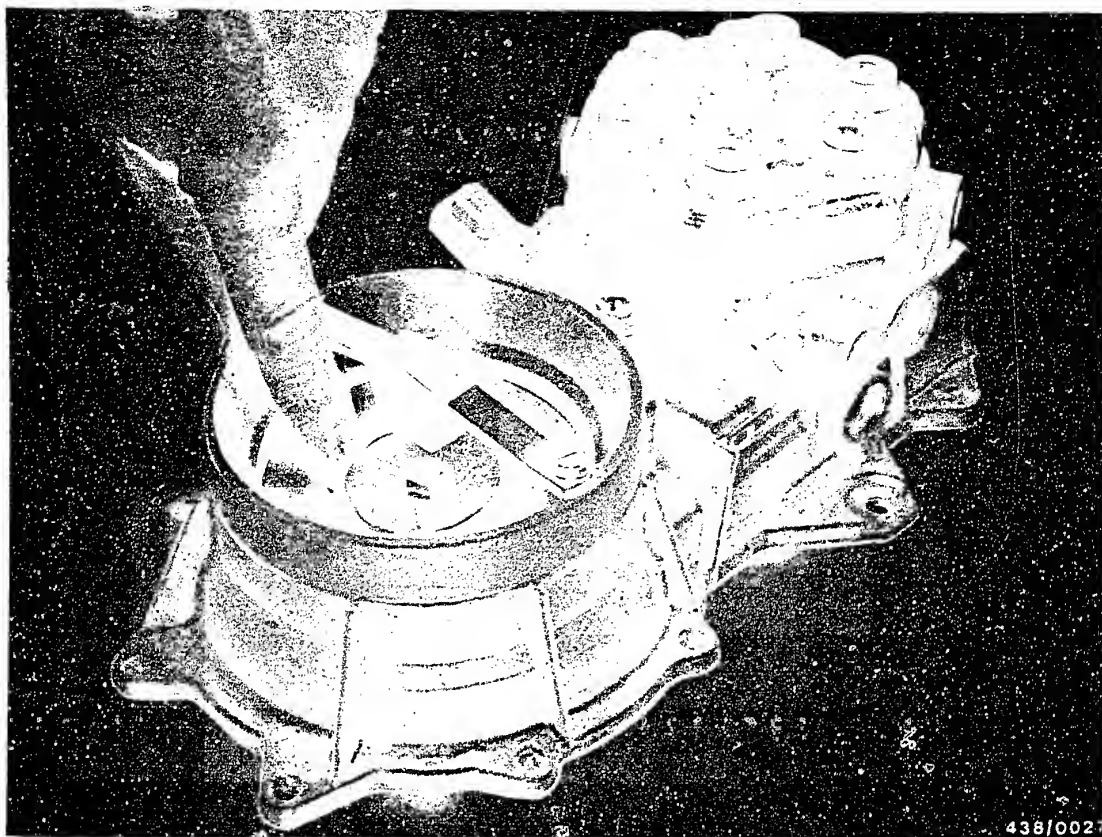


9. Check the control lever in the air-flow sensor and the control plunger in the fuel distributor for ease of movement.

9.1 Preparations

- Engine temperature not below +20°C.
- Remove the rubber hood so that the air-flow sensor plate becomes accessible.
- Switch on the electric fuel pump for approx. 10 seconds by bridging the safety circuit.
This results in application of the control pressure to the control plunger in the fuel distributor.





438/002

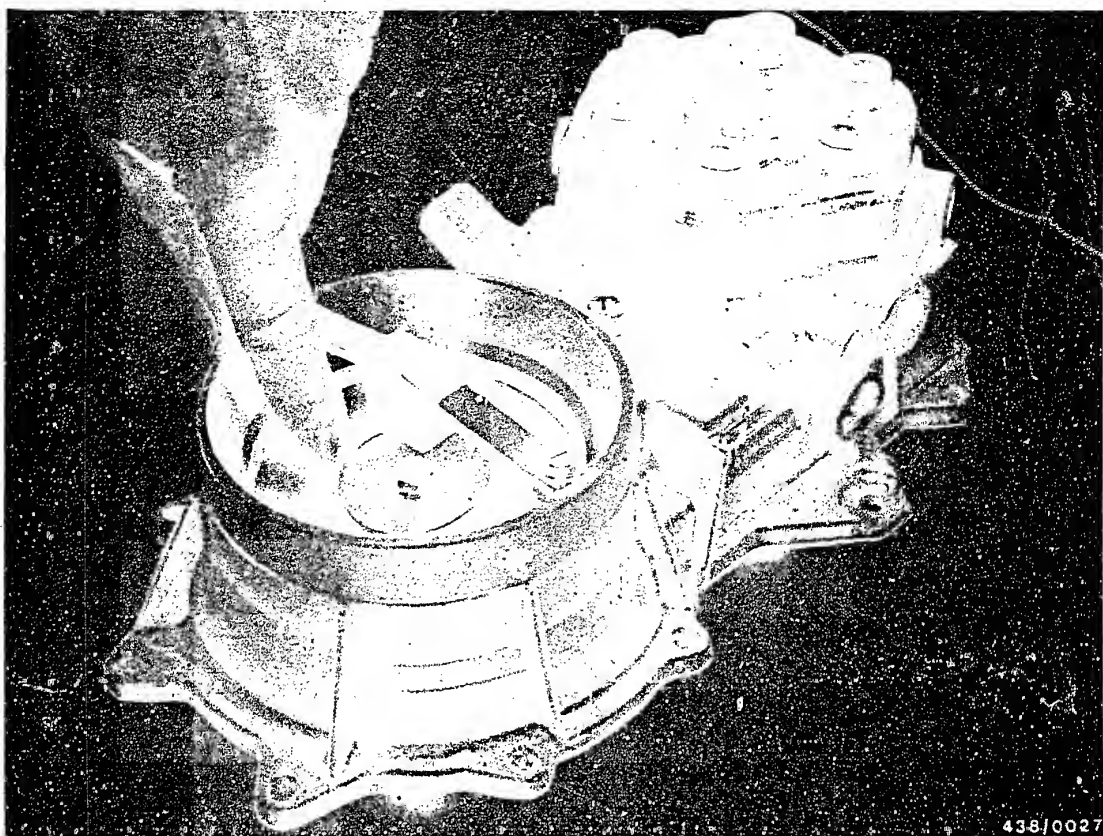
9.2 Check that the control lever moves freely

Press down the air-flow sensor plate by hand (down-draft) and release again. The sensor plate snaps back into the zero position and bounces up about twice from the spring-loaded stop. If the control lever does not move freely, first release all fastening screws holding the air-flow sensor to determine whether housing deformation is the cause of the problem. If the problem is solved by loosening the fastening screws, the seal between the air-supply housing and air-flow sensor should be changed (Renault-service part).

Tighten the screws uniformly cross-wise to a torque of 9...10 Nm (0.9...1.0 kgf/m).

If the housing is not deformed, then the air-flow sensor must be repaired or replaced.



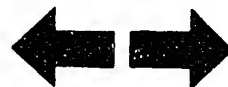


9.3 Check that the control plunger moves freely

Depress the air-flow sensor plate by hand (downdraft). The same resistance must be felt over the entire movement.

Move the sensor plate rapidly back to a position just in front of the zero stop. The control plunger follows this rapid movement of the sensor plate only sluggishly, and therefore initially loses contact with the sensor plate lever. It must be possible, however, to feel the plunger make contact with this lever again. If this condition is fulfilled, the control plunger can be considered to move freely.

If the control plunger does not move freely, remove the fuel distributor from the air-flow sensor.



Important!

Note the following when installing fuel components and fuel lines:

Always ensure utmost cleanliness when loosening or tightening the fuel connections. No dirt must enter the fuel system.

When loosening or tightening the fuel connections, apply counter-force at the fixed hexagon of the component.

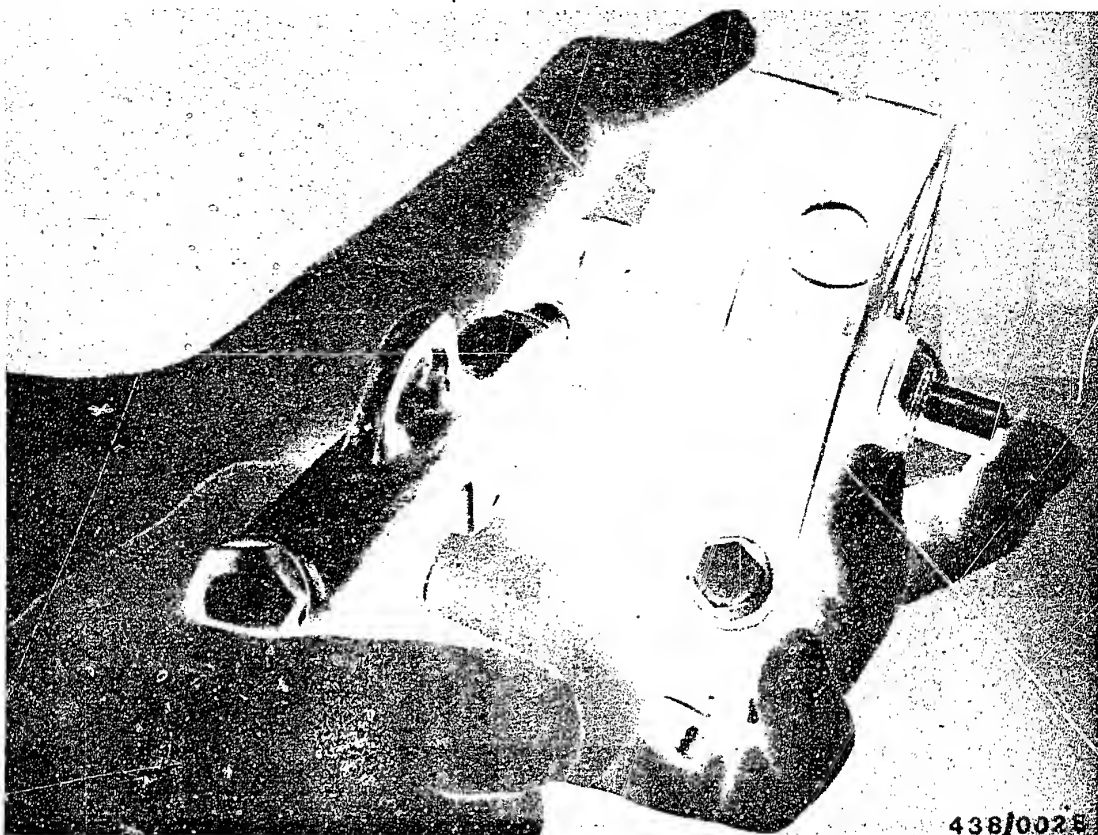
Clean the fuel distributor thoroughly in the region of the fuel connections. Screw off all connections.

B 10

Air-flow sensor/fuel distributor

Peugeot 604 Ti, 504 Ti Coupé

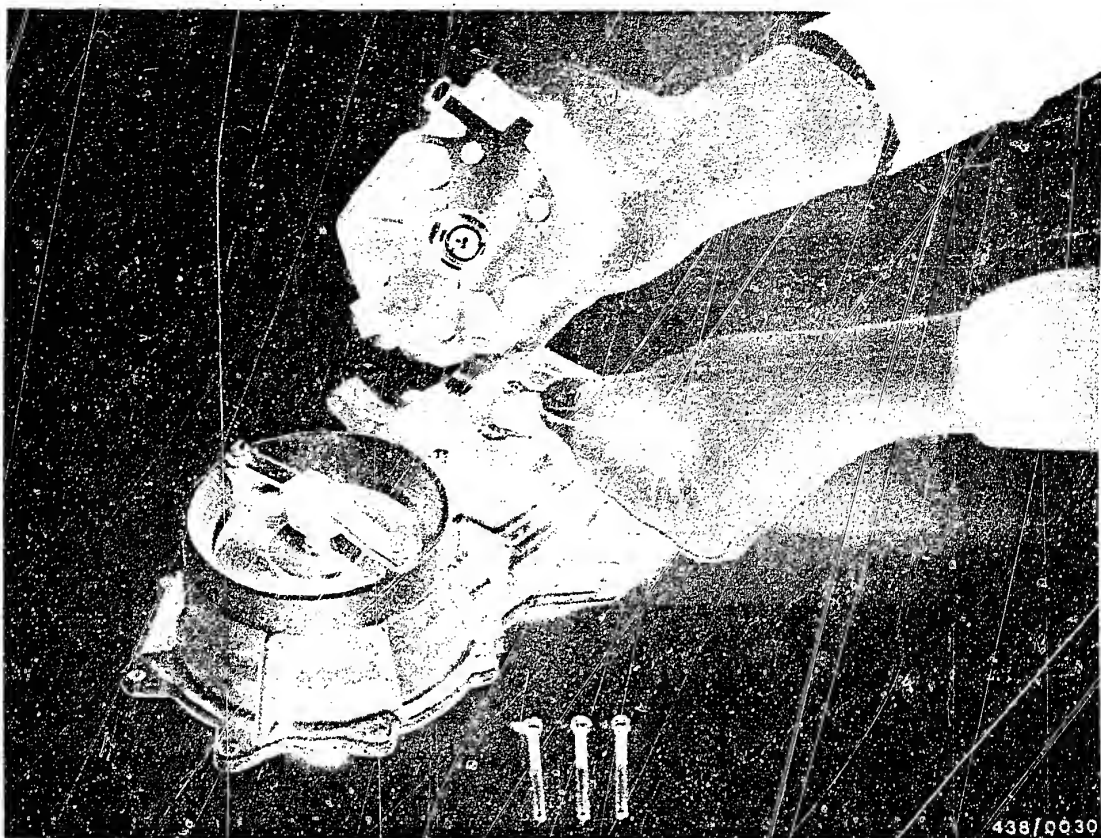




Screw out three fastening screws and remove the fuel distributor from the air-flow sensor.

Remove the plunger. Under certain conditions, in order to do this it may be necessary to blow compressed air briefly against the plunger through the control-pressure connection hole. Hold the plunger with your hand while doing this. Clean the plunger thoroughly with benzine. If the plunger still does not move freely, replace the fuel distributor





9.4 Fitting the fuel distributor

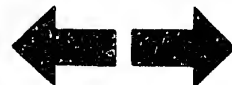
When fitting the fuel distributor, use a new seal ring between fuel distributor and air-flow sensor.

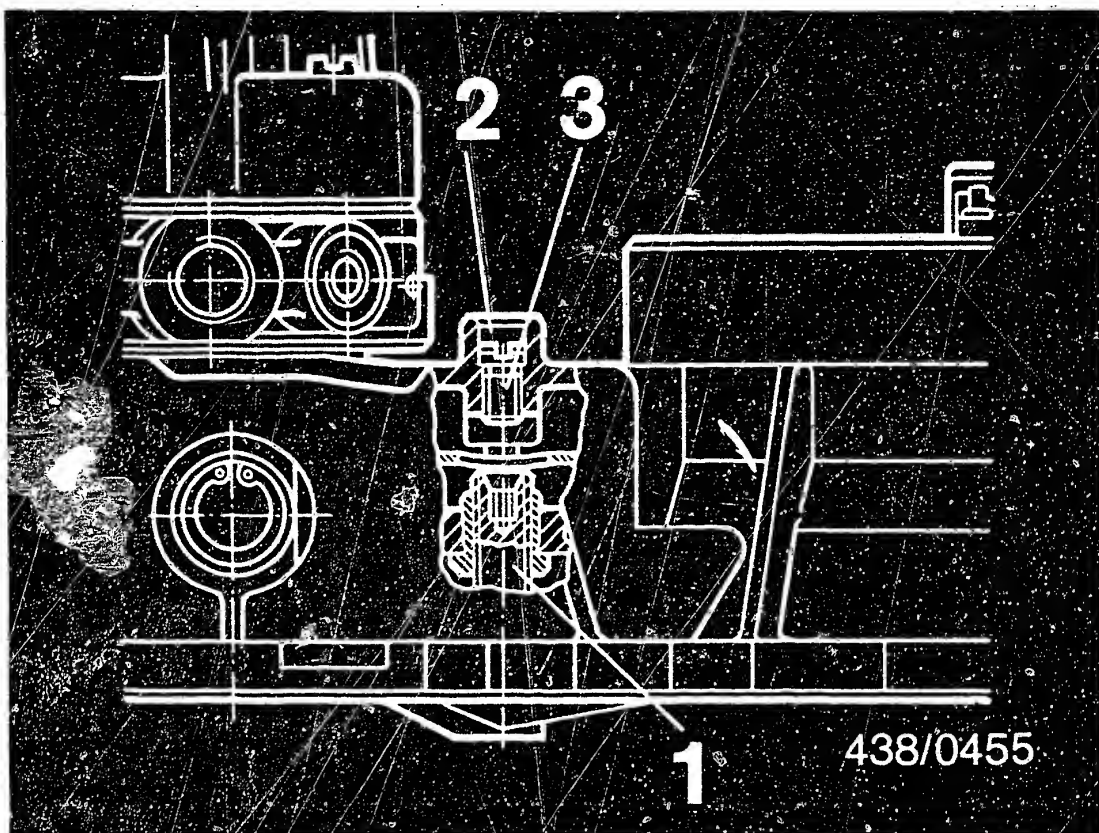
Observe the tightening torque 3.2...3.8 Nm (0.32... 0.38 kgfm) for the fastening screws precisely.

When connecting the fuel-injection tubing, use new seal rings.

Caution:

The connection screws of the fuel-injection lines on the fuel distributor should be tightened to a torque of 10...12 Nm (1...1.2 kgfm); if tightened too much, there is the danger that the lines may be crushed.





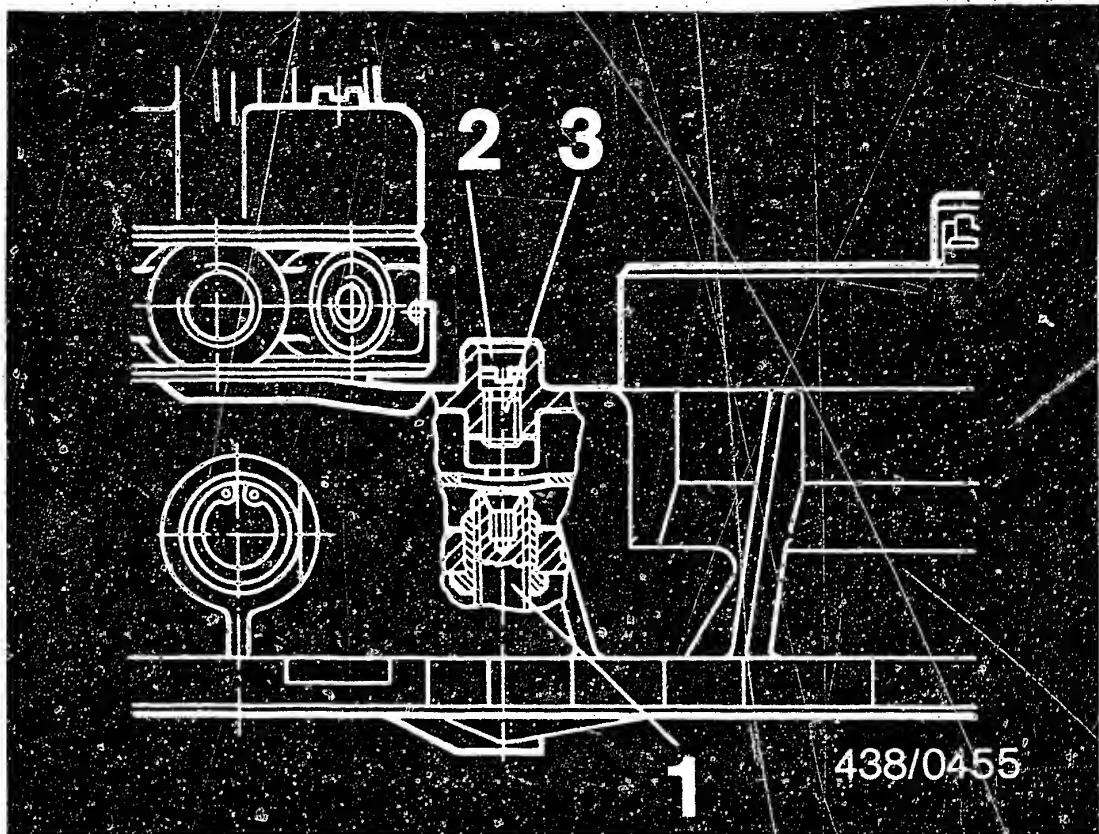
- 1 = Idle-mixture-adjusting screw
- 2 = Lead seal
- 3 = Screw plug

9.5 Matching the fuel distributor to the air-flow sensor for initial starting

Screw off one fuel-injection line from the fuel distributor. Bridge the electrical safety circuit so that the electric fuel pump operates.

The bore to the idle-mixture-adjusting screw (1) is closed off by a screw plug (3) and an anti-tamper device (lead seal) (2).

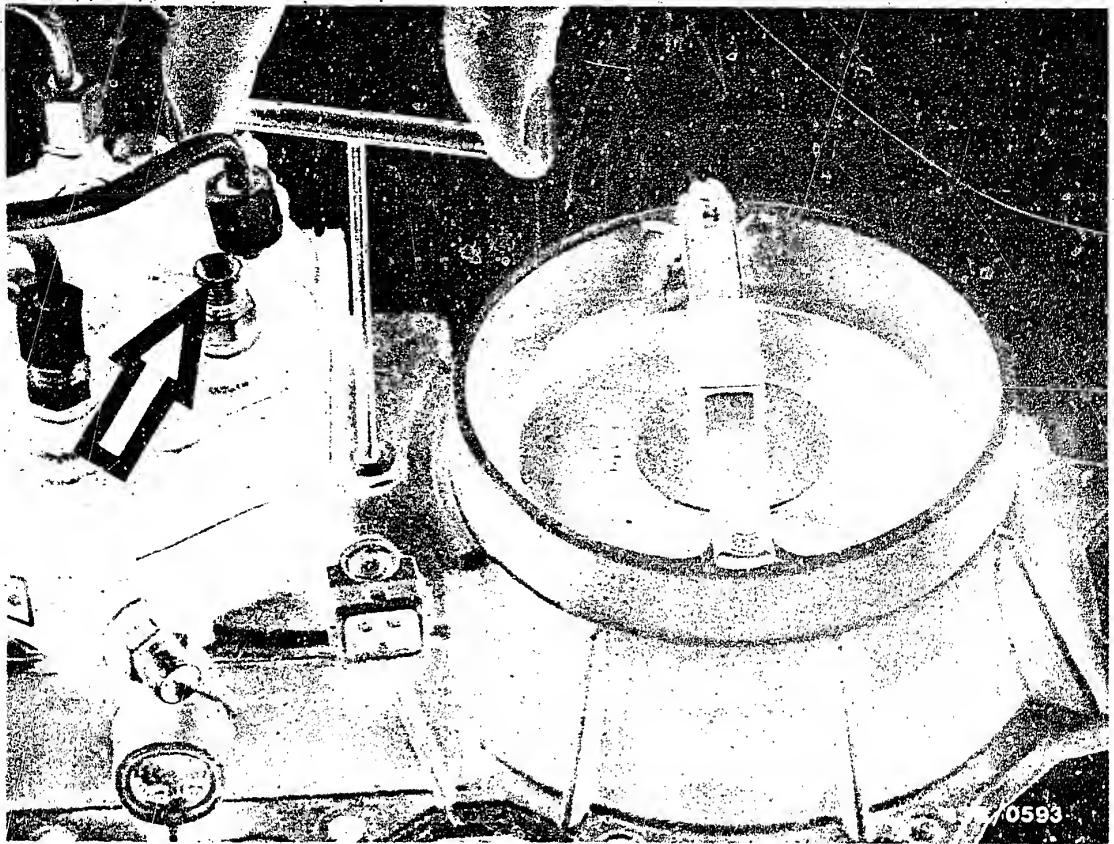




- 1 = Idle-mixture-adjusting screw
- 2 = Lead seal
- 3 = Screw plug

Remove the anti-tamper device and unscrew the screw plug. Insert the adjusting wrench KDEP 1035 through the bore into the idle-mixture-adjusting screw.





Screw in the idle-mixture-adjusting screw slowly and without exerting any great pressure on the adjusting wrench until fuel is just delivered from the open outlet (arrow) of the fuel distributor. Then turn back the adjusting screw by 1/2 turn.

Re-connect the fuel-injection line to the fuel distributor, start the engine and warm up. -

The final matching of air-flow sensor and fuel distributor is carried out by adjusting the idle speed with the engine at normal operating temperature.

Idle-speed adjustment is described on Coordinate F 2.

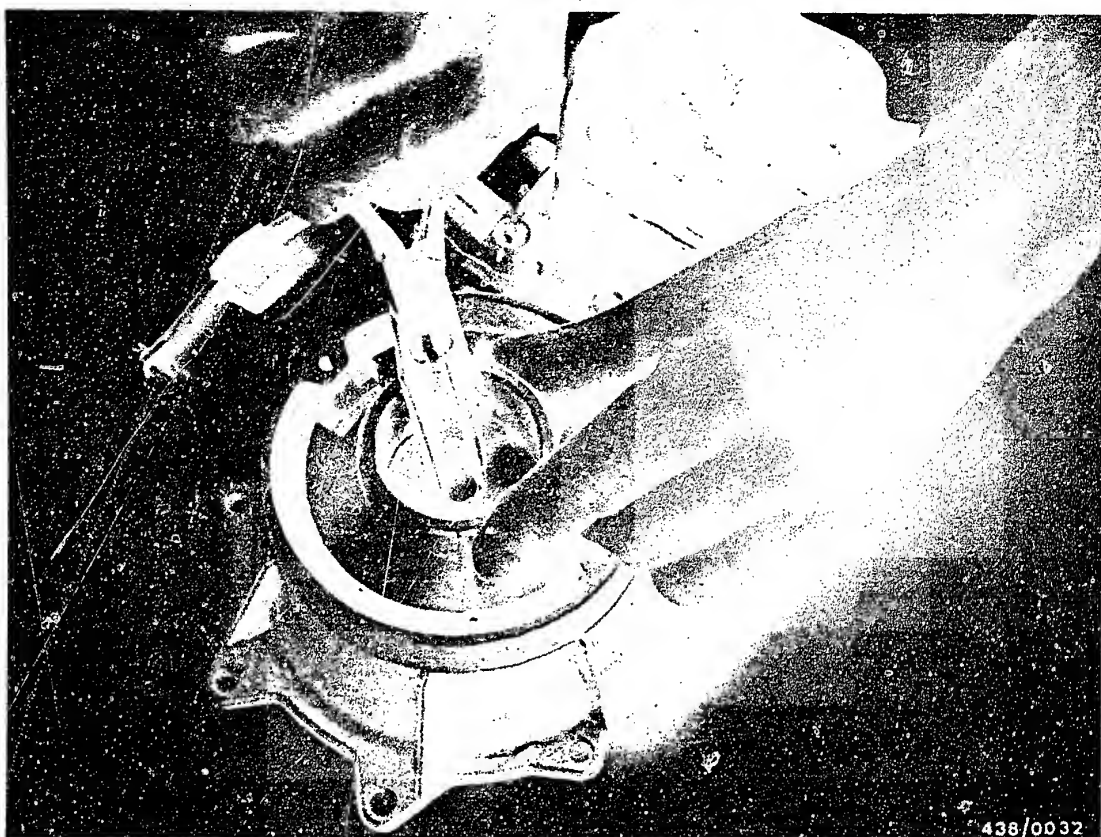


10. Checking and adjusting the position of the air-flow sensor plate

10.1 Preparations

- Engine temperature is not important.
- Remove the air filter so that the air-flow sensor plate becomes accessible.





438/0032

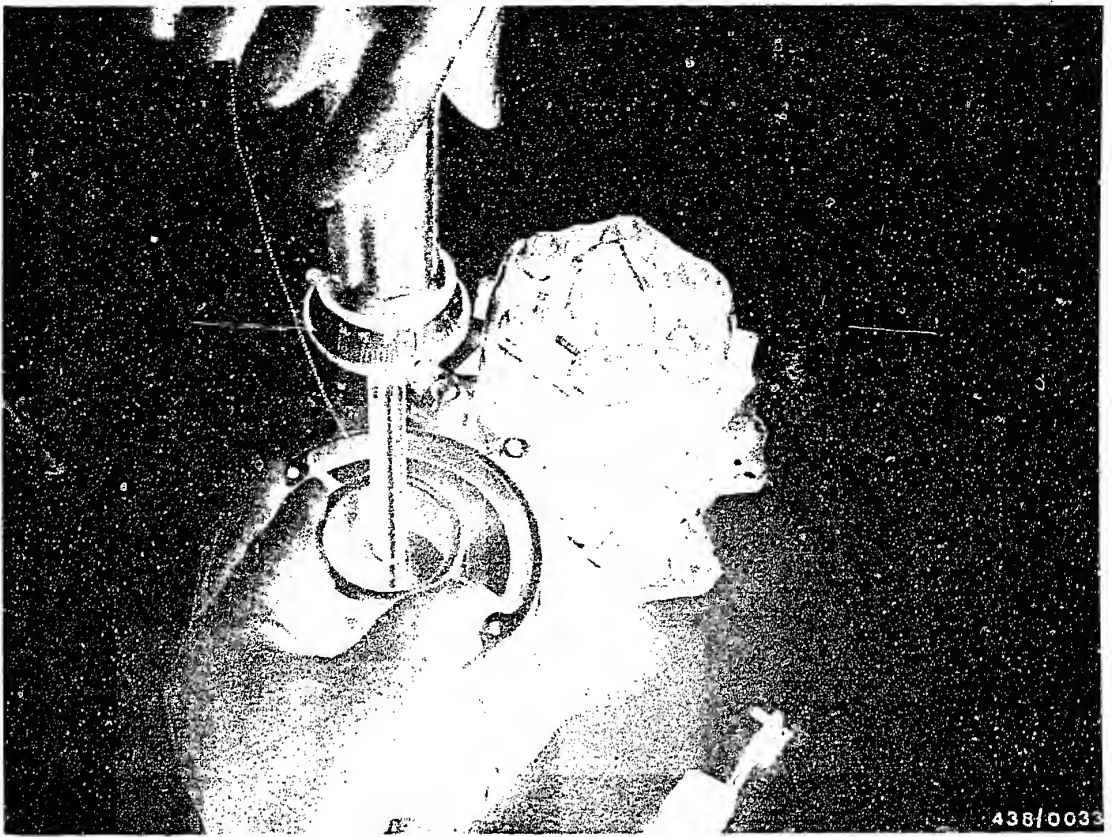
10.2 Centering the air-flow sensor plate

Check that the sensor plate is flat (not bent) and that it can move through the narrowest part of the air funnel without touching the funnel. If necessary, center it using a positioning ring KDEP 1040/13 (dia. 85mm) as follows:

Remove the stop bracket after loosening the two fastening screws.

Loosen the sensor plate fastening screw... Insert the positioning ring while holding the fastening screws with pliers so that the sensor plate does not deflect downwards.





With the positioning ring in place, tighten the fastening screw with a torque of 5.0...5.5 Nm, loosen again and tighten again with the same torque.

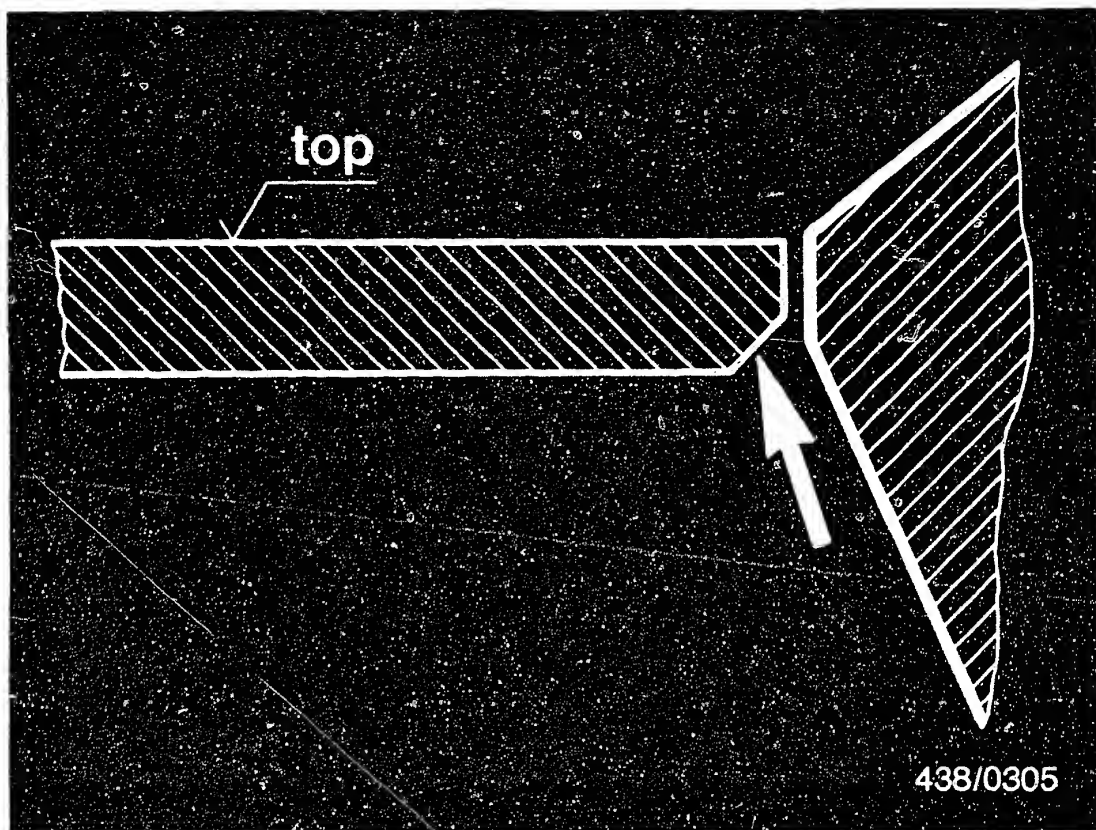
When tightening the screw make sure that the air-flow sensor plate is in its zero position (in the cylindrical part of the air funnel).

It must no longer be possible to turn the air-flow sensor plate by hand.

B18

Checking/adjusting air-flow sensor plate
Peugeot 604 Ti, 504 Ti Coupé

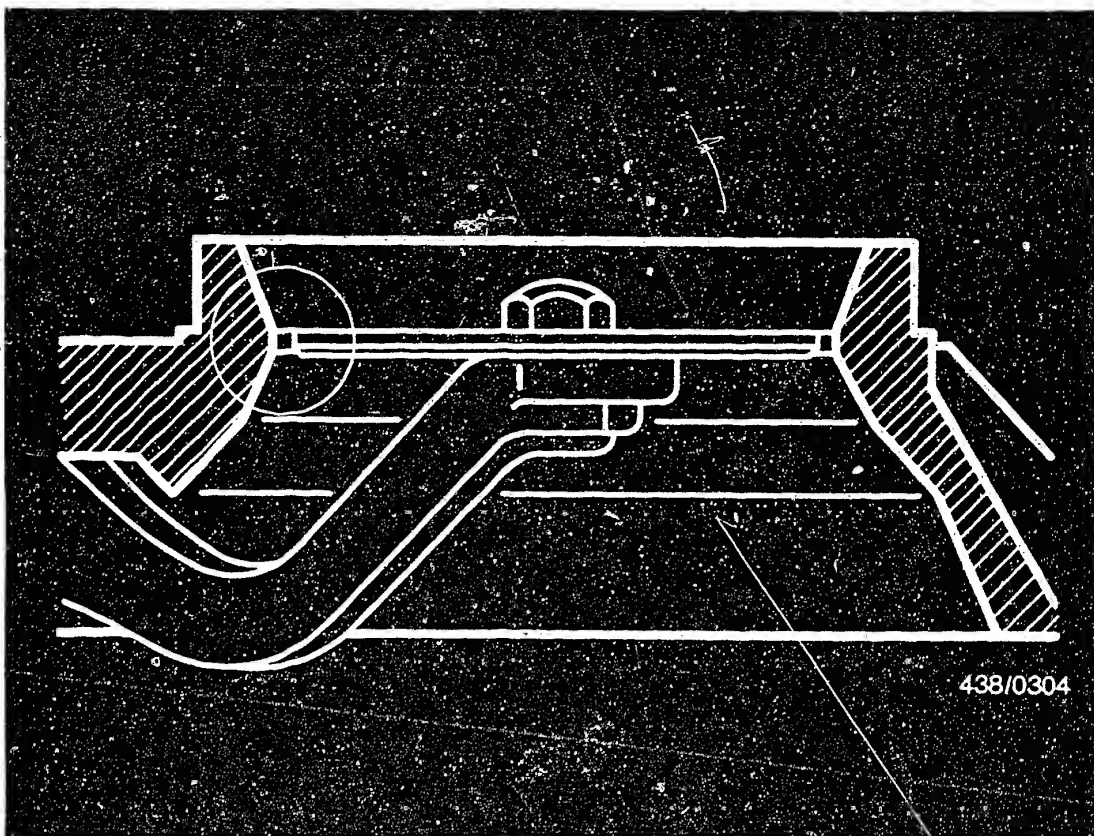




Caution:

The lower edge of the sensor plate is partially chamfered. Be absolutely sure that this chamfered edge is on the bottom (arrow). The upper side of the sensor plate is (in some cases) marked by the word "top".





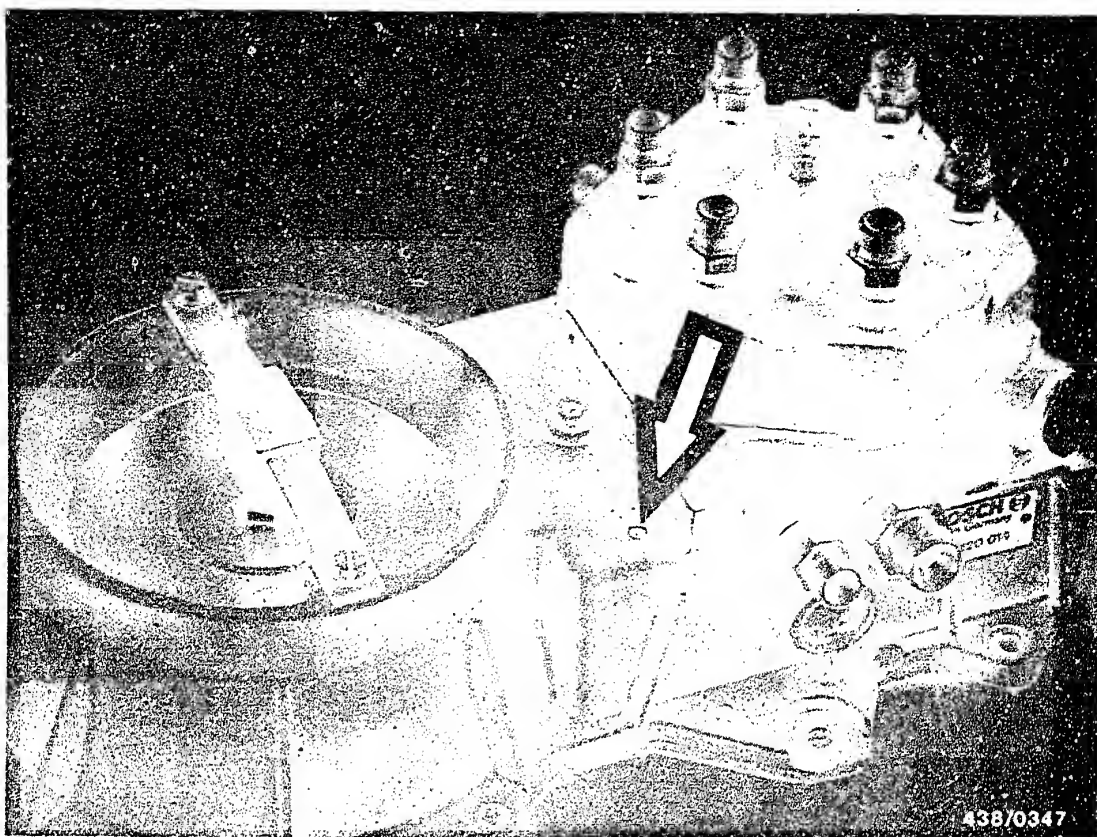
10.3 Checking and adjusting the zero position of the sensor plate. (Rest position):

Switch on the electric fuel pump for approx. 10 seconds by bridging the safety circuit.
This results in application of the control pressure to the control plunger in the fuel distributor.

The upper edge of the sensor plate must be flush with the beginning of the cone (relief funnel, top) or max. 0.5 mm higher.

The air-flow sensor plate must be flat and must not project at any point on its circumference outside the cylindrical part of the air funnel.





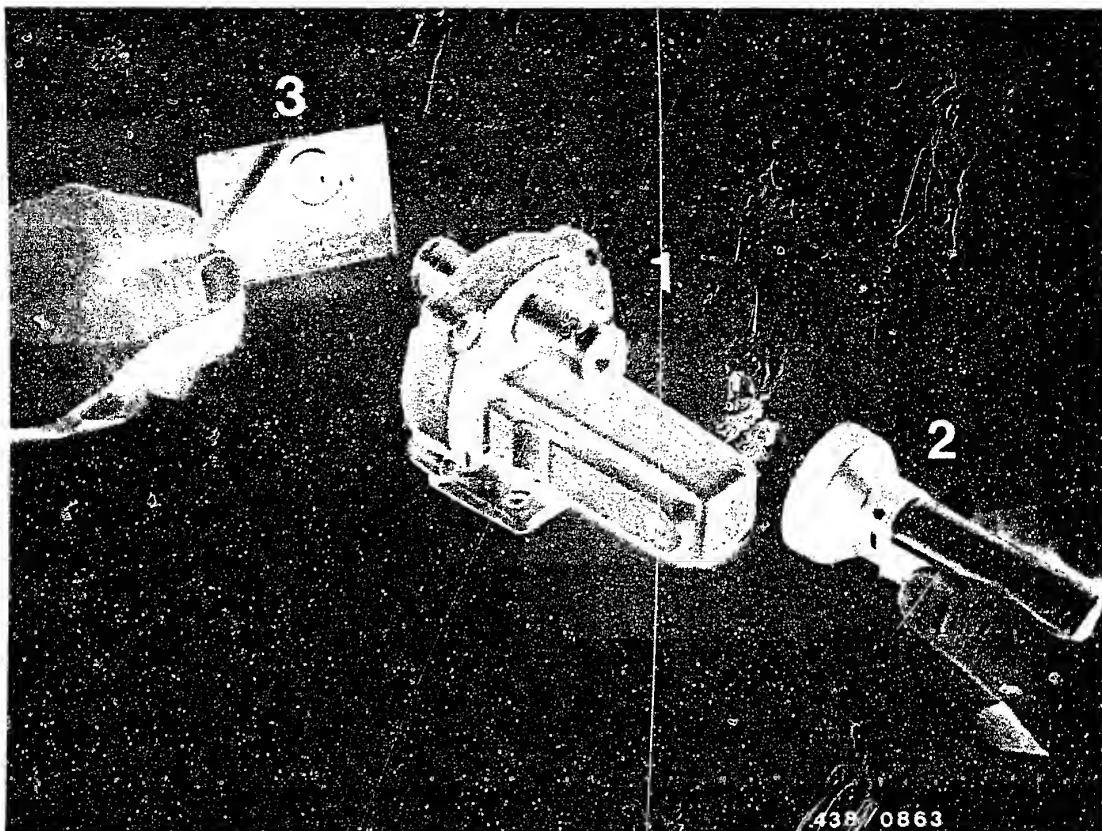
If the sensor plate is positioned too high, an adjustment can be made. To do this, drive the guide pin (arrow) for the leaf-spring limit-stop deeper using a mandrel and a light hammer.

Caution:

Make this adjustment very carefully so that the guide pin is not driven in too far.

Be absolutely sure to avoid repeated adjustments in both directions because this can loosen the press fit of the pin. Serious engine damage can result if this pin should drop out.





- 1 = Auxiliary-air device
- 2 = Flashlight
- 3 = Mirror

11. Checking the operation of the auxiliary-air device.

The engine must be cold.

Disconnect the electric cable plugs from the auxiliary-air device and warm-up regulator.

Disconnect both air hoses from the auxiliary-air device. Since the two hose fittings on the auxiliary-air device are located exactly opposite each other, a visual check can now be made to see if the blocking plate is partially open.

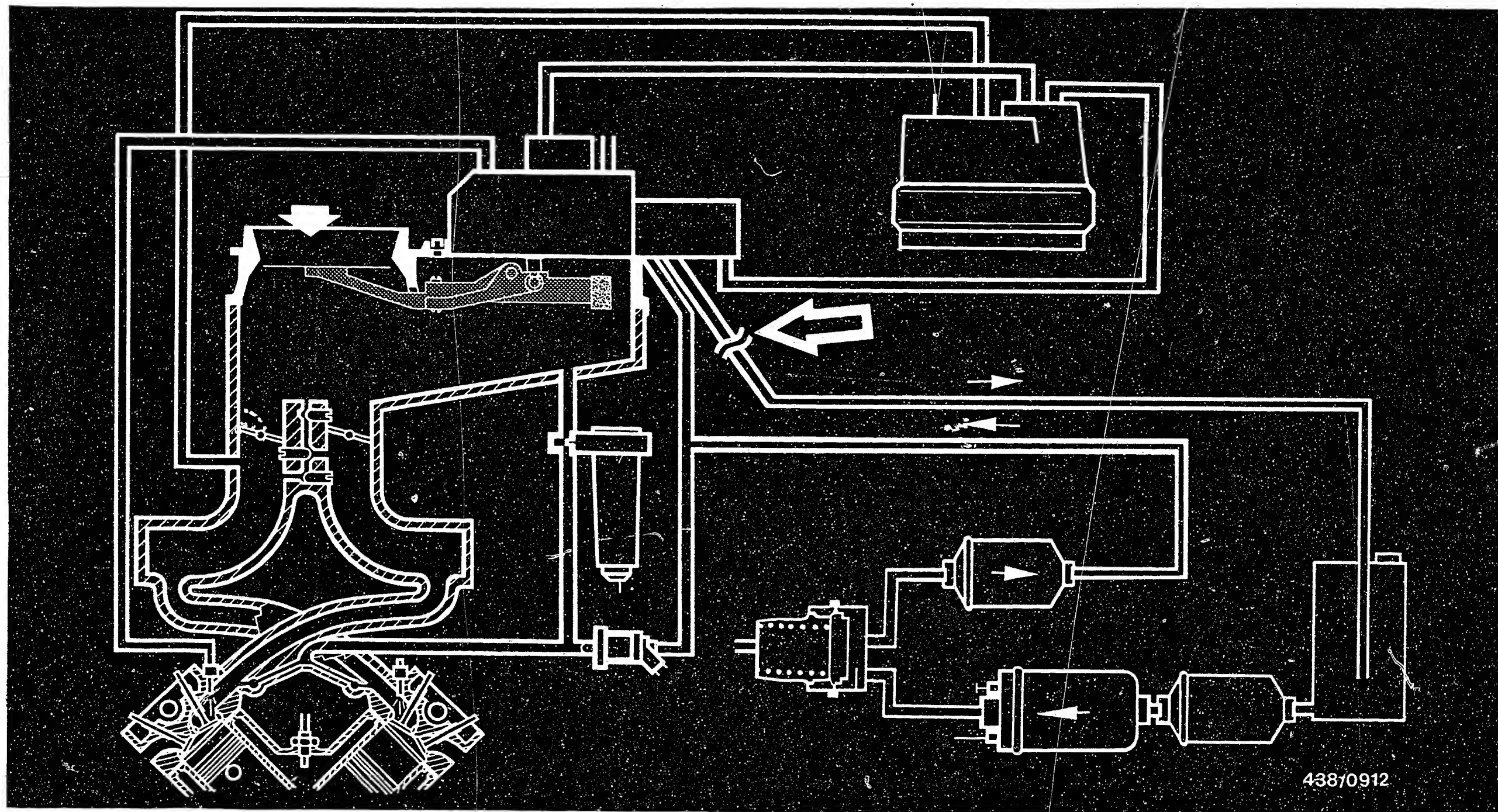
It will be easier to look through the auxiliary-air device with the aid of a flashlight and a mirror, as shown in the illustration.



- If an opening is not visible with the engine cold, replace the auxiliary-air device.
- Fit the electric cable plug on the auxiliary-air device.
- By bridging the electrical safety circuit, supply power to the auxiliary-air device.
After a maximum of 10 minutes, the opening in the auxiliary-air device must be completely closed by the blocking plate.
- If the blocking plate does not close, check the power supply (open circuit, voltage drop).
Minimum voltage across the connector 11.5 V with the engine stopped.
- If these points are O.K., check the heating coil of the auxiliary-air device for an open circuit using an ohmmeter.
- Replace the auxiliary-air device if defective.

When the auxiliary-air device has been replaced, re-adjust the idle speed with the engine at normal operating temperature. Idle adjustment is described on Coordinates F 2.





12. Checking the operation of the electric fuel pump

12.1 Requirement

Conclusive information on the operation of the electric fuel pump can only be given by a measurement of fuel delivery under pressure, i.e. under primary (system) pressure. This measurement must therefore be made at the return line leading to the fuel tank (arrow).

C3

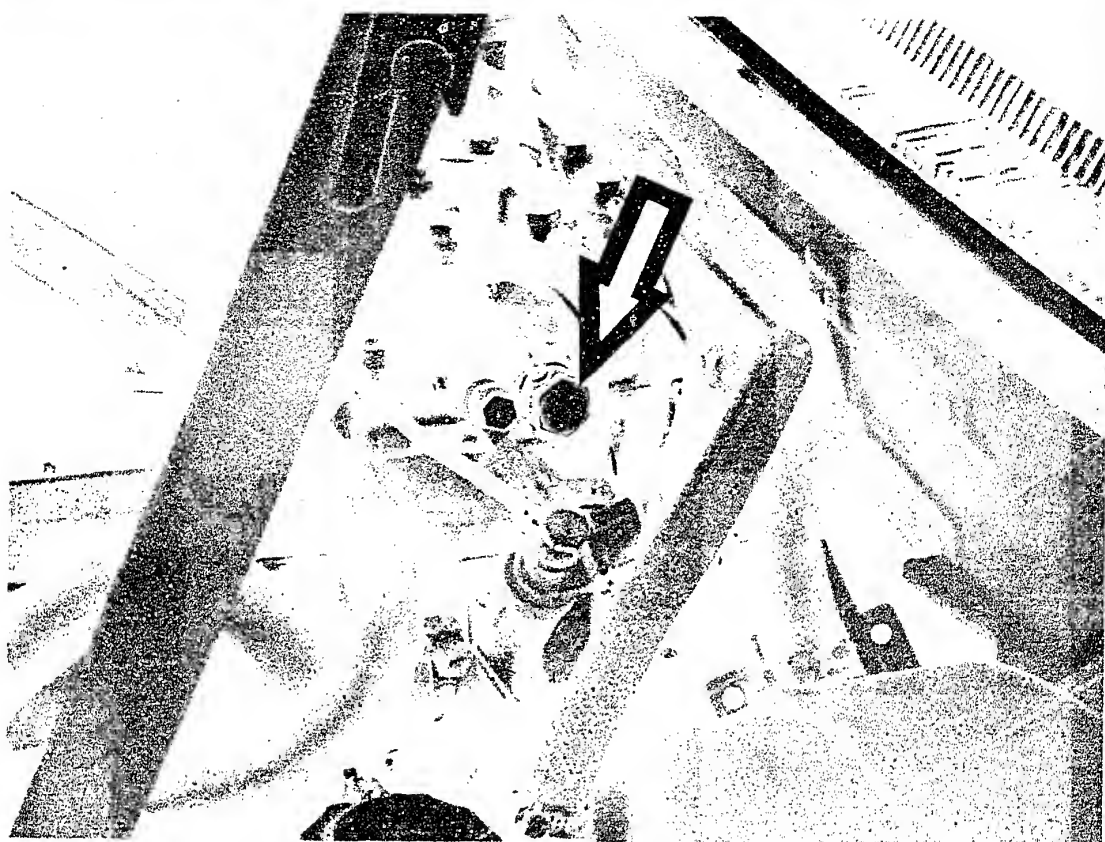
Checking the electric fuel pump
Peugeot 604 Ti, 504 Ti Coupé



C4

Checking the electric fuel pump
Peugeot 604 Ti, 504 Ti Coupé





12.2 Measuring point

A suitable measuring point for fuel-delivery testing is the return port (arrow) on the fuel distributor.

Unscrew the fuel return line from the fuel distributor. Equip a test hose (minimum inside diameter 8 mm) with an inlet union and union nut M 12 x 1.5 and connect to the return port of the fuel distributor.

Hold the end of the hose in a graduate (approx. 1.5 litres capacity) in order to make the measurement.



12.3 Testing

Remove the plugs from the warm-up regulator and auxiliary air device. Switch on the electric fuel pump for precisely 30 seconds by bridging the safety circuit and measure the delivery in the graduate.

12.4 Test specification:

Fuel delivery: min. 950 cm³/30 seconds

12.5 Possible causes of insufficient fuel delivery:

- Power supply to the electric fuel pump defective, voltage drop. Necessary minimum voltage at terminal with pump operating = 11.5 V.
- The strainer in the fuel-distributor inlet fitting is clogged.
- The fuel filter is badly clogged.
- The primary filter is badly clogged.

The thus caused pressure drop with increases with time leads to the formation of gas bubbles and noisy running. In addition, with this prefilter it is possible for particles of adhesive to come away, which leads to the blocking of the fuel pump and to the breaking of the driver.

Warranty claims should be rejected for the above-mentioned fuel pumps which are brought in due to noise and blocking.

If the above-mentioned points are O.K., the cause lies with the electric fuel pump itself.
Replace the electric fuel pump.

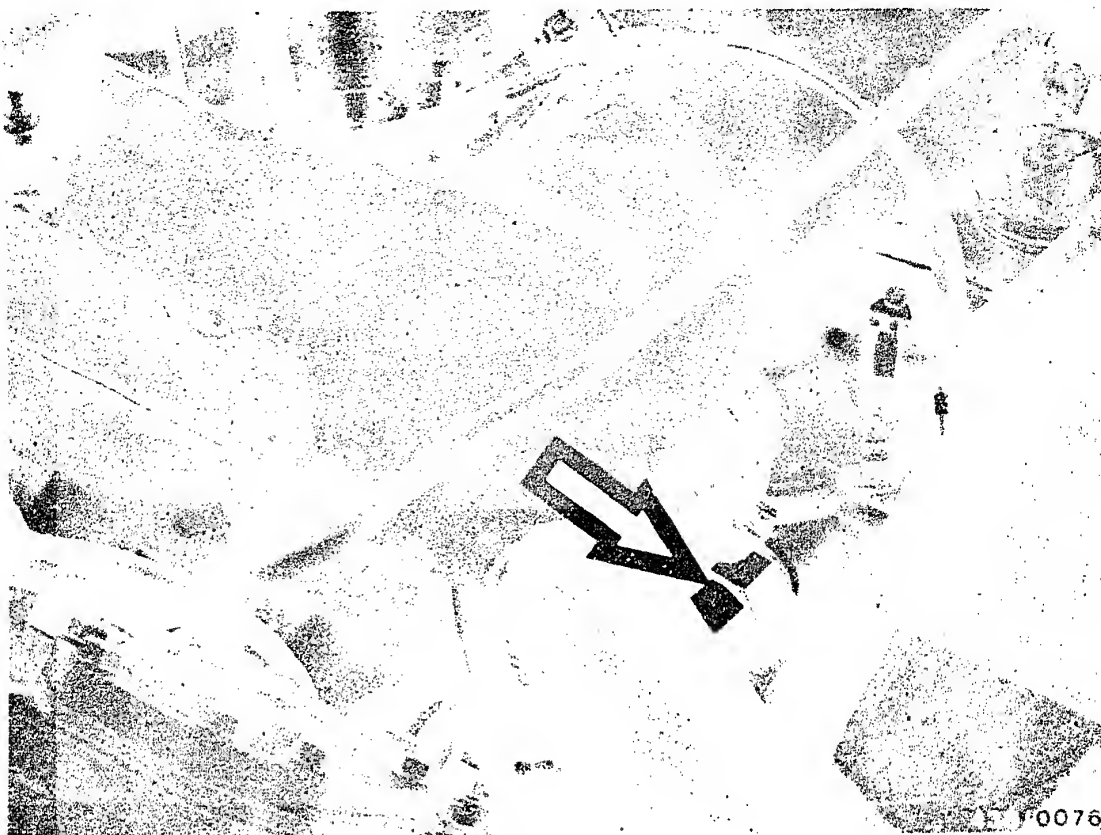


12.6 Removal and installing of the electric fuel pump:

Pinch off the fuel intake hose from the fuel tank to the electric fuel pump (e.g. using hose clammer W 157 from Matra Co.).

When installing, use a new seal and pay attention to the correct positioning of the electric fuel pump. Danger of bending the fuel lines.



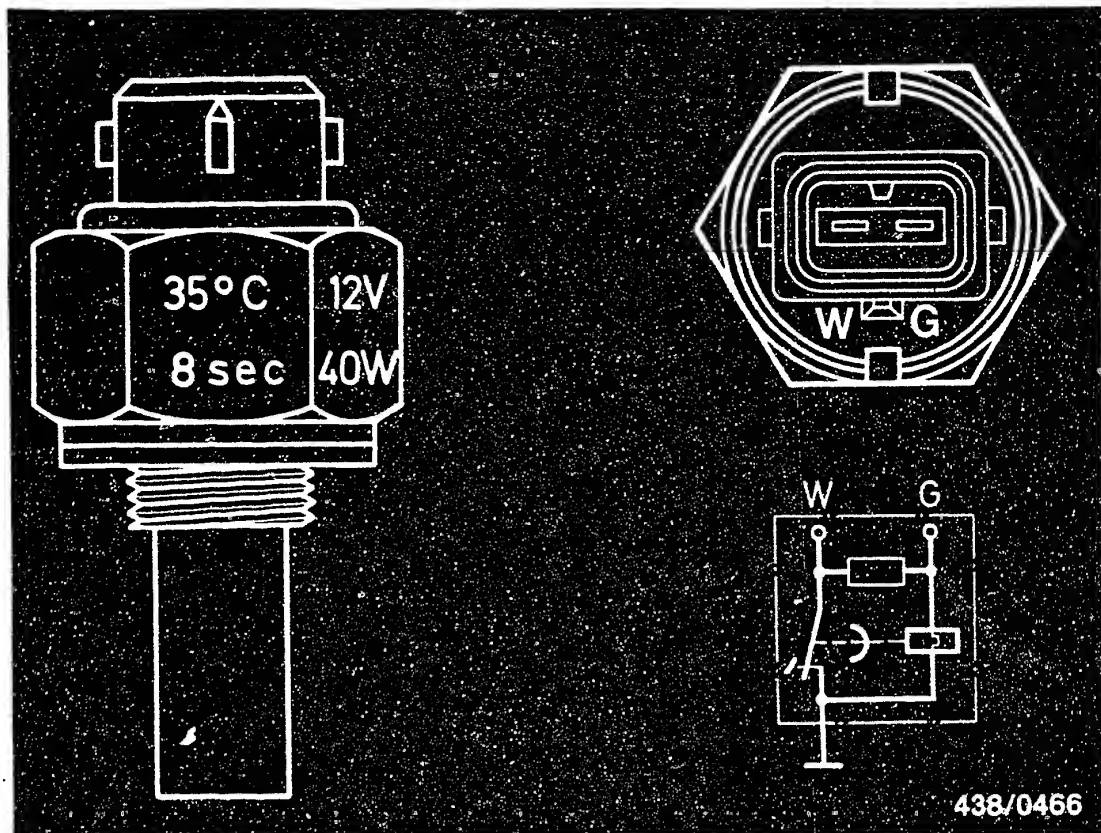


13. Checking the cold-start system (thermo-time switch, cold-start valve)

13.1 Thermo-time switch (non-Bosch product)

Remove the thermo-time switch (arrow) for testing. It is to be found on the forward end face of the cylinder head in the cooling-water distributor fitting. Collect any escaping coolant in the container.





438/0466

The switching temperature $+35^{\circ}\text{C}$ and the switching time at -20°C of 8 seconds are stamped into the hexagonal section of the thermo-time switch. The removed thermo-time switch is tested using the ohmmeter in accordance with the specifications given below.

The temperatures for the thermo-time switch can easily be obtained with water. Cooling takes place in a freezer chest.

Resistance measurement (Ω) between

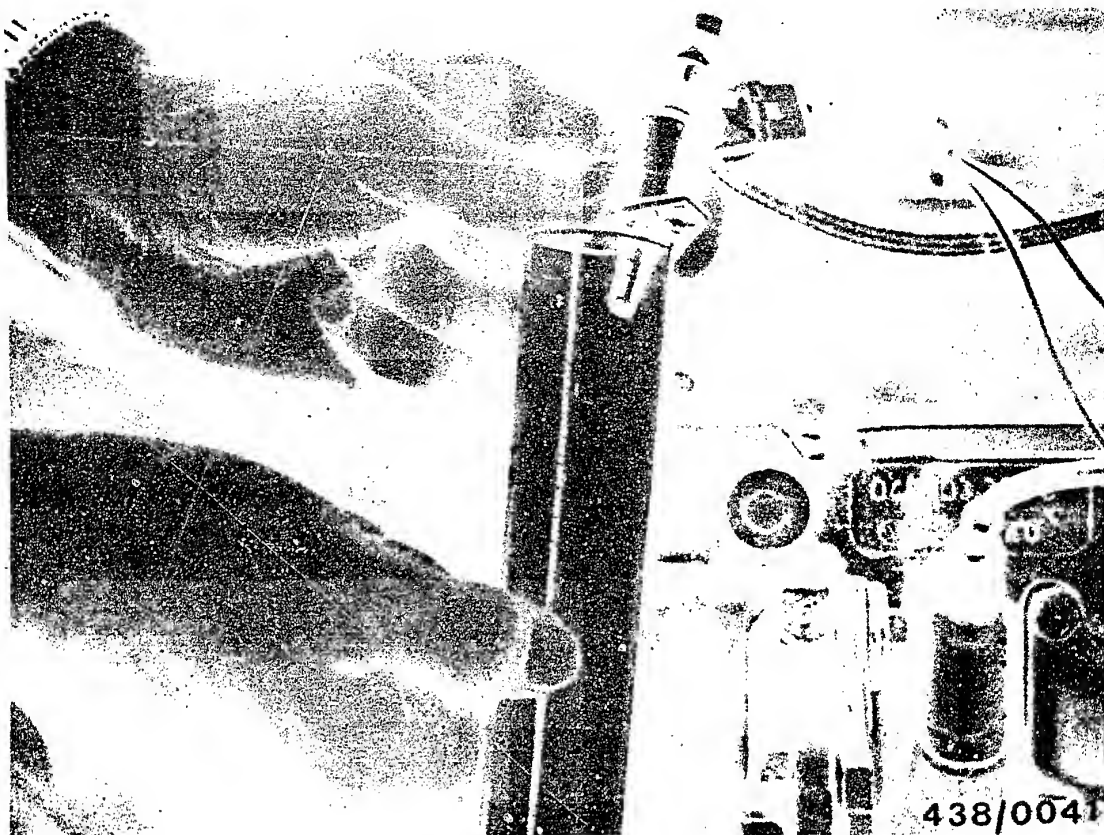
At a temperature below above $^{\circ}\text{C}$ $^{\circ}\text{C}$		Term. "G" and "ground" (housing)	Term. "W" and "ground" (housing)	Term. "G" and term. "W"
+30		25...40	0	25...40
	+40	50...80	100...160	50...80

C9

Checking cold-start sys./t.-t. switch

Peugeot 604 Ti, 504 Ti Coupé





13.2 Start valve:

Remove the start valve. Hose line remains connected. Pull off the plug and connect the start valve directly to ground and to terminal 15 (e.g. at the ignition coil) using connecting cable KDJE 7450/70.

Important note:

During this test, do not let the connecting cable touch B +. Danger of fire due to sparking!

Hold the start valve in a suitable container (e.g. the graduate).

Switch on the electric fuel pump by bridging the safety circuit.

Switch on the ignition (max. 30 seconds). The start valve must now open and spray fuel.

Switch off the ignition, remove the electric connecting cable and dry the nozzle of the start valve.

The safety circuit remains bridged so that the primary pressure is applied to the start valve.

No droplets of fuel must drip from the nozzle of the start valve during the next minute. Even if shaken and knocked, the start valve must not leak.

Then switch the electric fuel pump off again.

Replace the start valve if it does not open or if it leaks.

If a leaky start valve or a defective thermo-time switch has been replaced, it is necessary finally to adjust the idle speed with the engine at normal operating temperature.

Idle-speed adjustment is described on Coordinates F 2.



14. Checking the control pressures

14.1 Preliminary remarks:

The control pressures tested in the following are in each case governed by the warm-up regulator. If the test results are incorrect, however, this may also be due to faults which have nothing to do with the warm-up regulator.

These possible faults are:

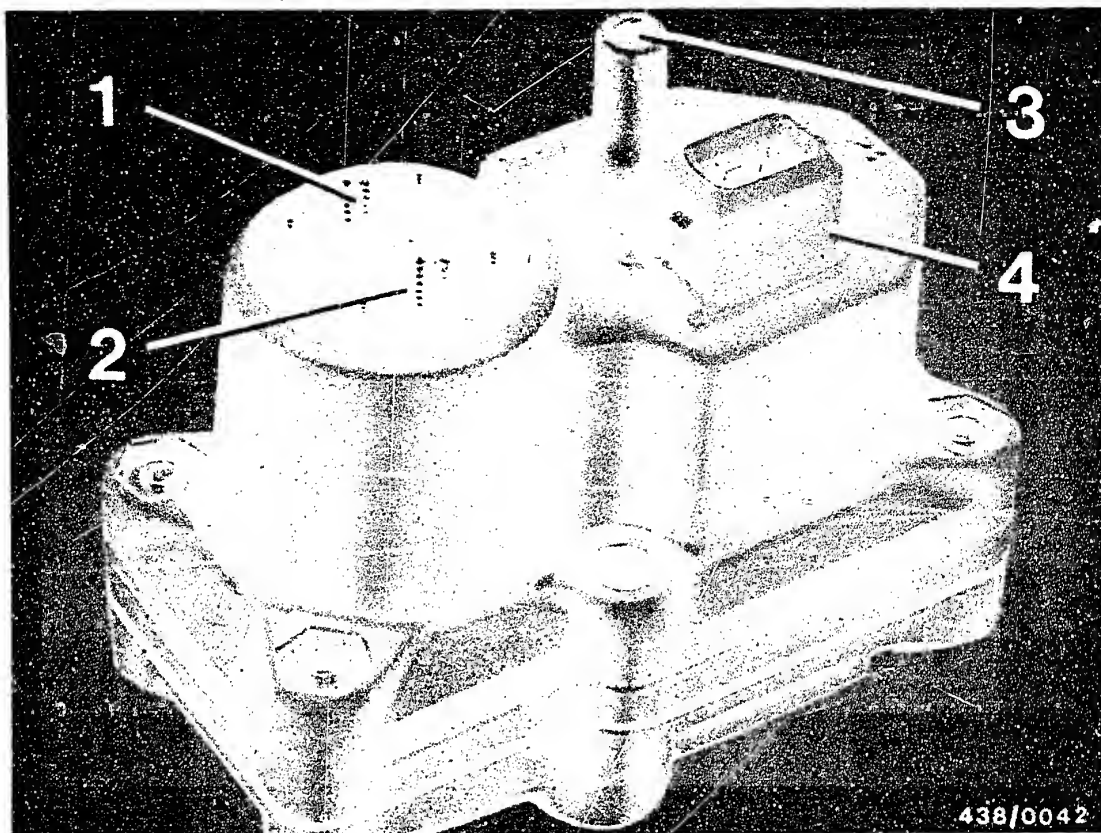
- No or too low a voltage at the electric connector.
- Fuel return from the warm-up regulator blocked or constricted.
- Too high a fuel delivery for the control-pressure circuit.

The testing of this control-pressure delivery is described as an additional test step at the beginning of the control pressure tests.

Test specification: 160...240 cm³/min.

Reference is made to the other possible causes of trouble in the respective test step.





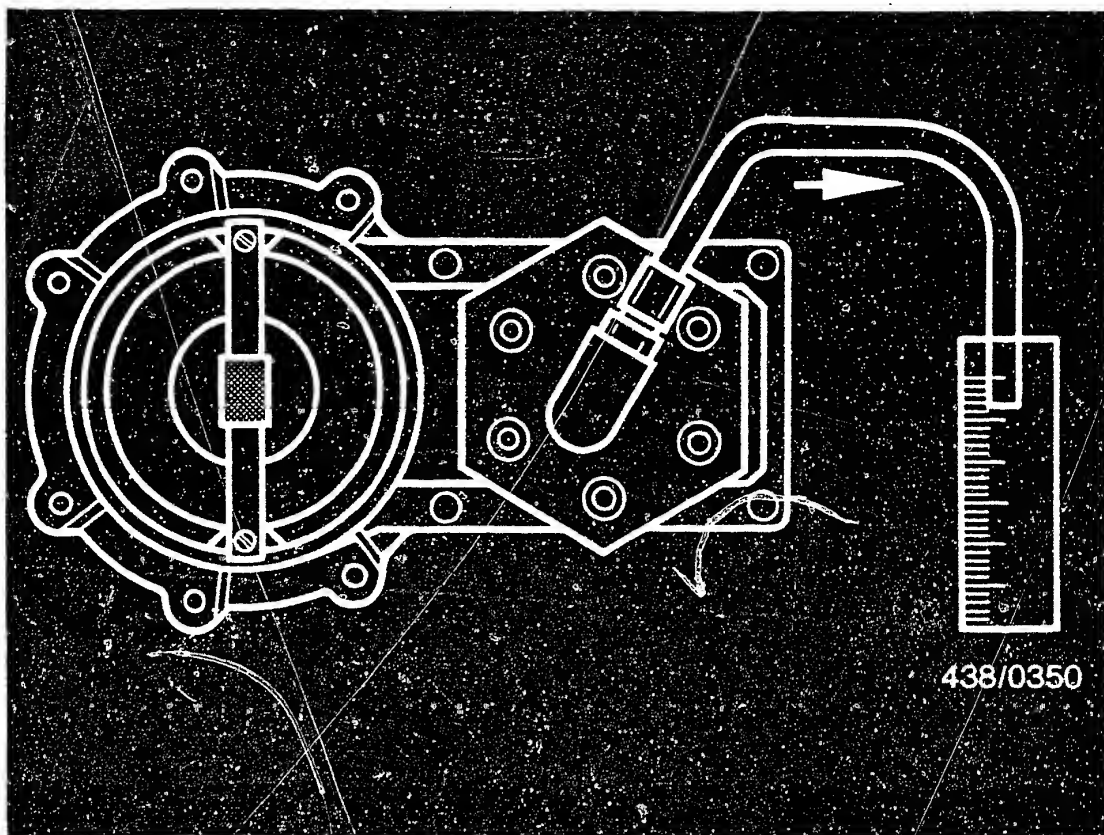
- 1 = Return connection (M 8 x 1)
- 2 = Inlet connection (M 10 x 1)
- 3 = Connection for intake-manifold pressure (downstream of throttle valve)
- 4 = Electric connection

14.2 Warm-up regulator versions

● Warm-up regulator No. 0 438 140 038 /047

The warm-up regulator is a version for intake-manifold-pressure-controlled full-load enrichment. This means that the cold and warm control pressures are additionally influenced by the intake-manifold pressure acting on the full-load diaphragm of the warm-up regulator. The intake-manifold connection port (3) is on the top of the housing cover.





438/0350

14.3 Testing the fuel delivery for the control-pressure circuit:

Before testing, make sure that the electric fuel pump is in proper working order.

Test specification: Min. 950 cm³/30 sec.

As from the 1981 model, connect the hose of the pressure tester instead of the steel control-pressure pipe.

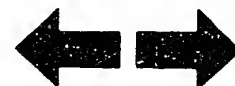
Switch on the electric fuel pump for 1 minute by bridging the safety circuit.

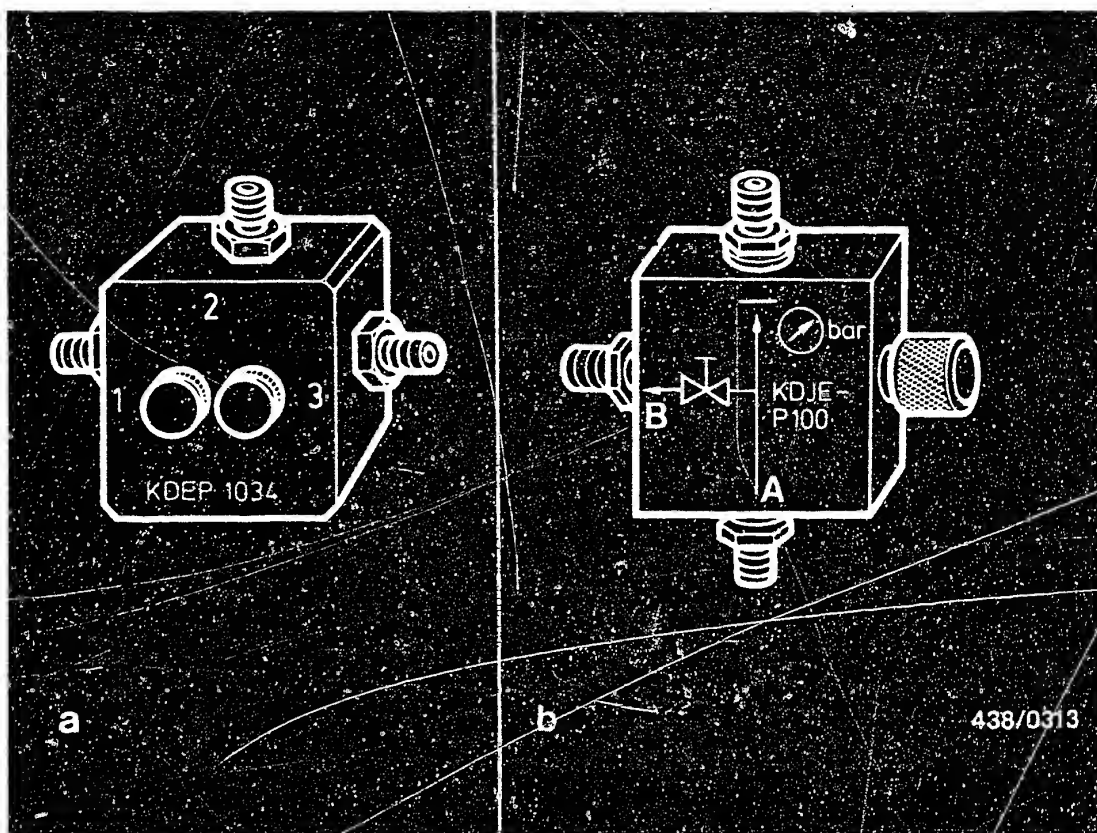
Measure delivery.

Test specification: 160...240 cm³/min.

If the measured value is outside tolerance, the fault is in the fuel distributor.

Replace the fuel distributor.





14.4 Mounting the pressure tester KDJE-P 100 (formerly KDEP 1034):

The pressure tester KDEP 1034 is equipped with a three-way valve with 2 separate valve screws. The connections of the directional-control valve are numbered (Fig. a). Since the end of 1979 the pressure tester KDJE-P 100 has been supplied. Its directional-control valve has only one valve screw (Fig. b). The connections of this directional-control valve are identified by symbols:

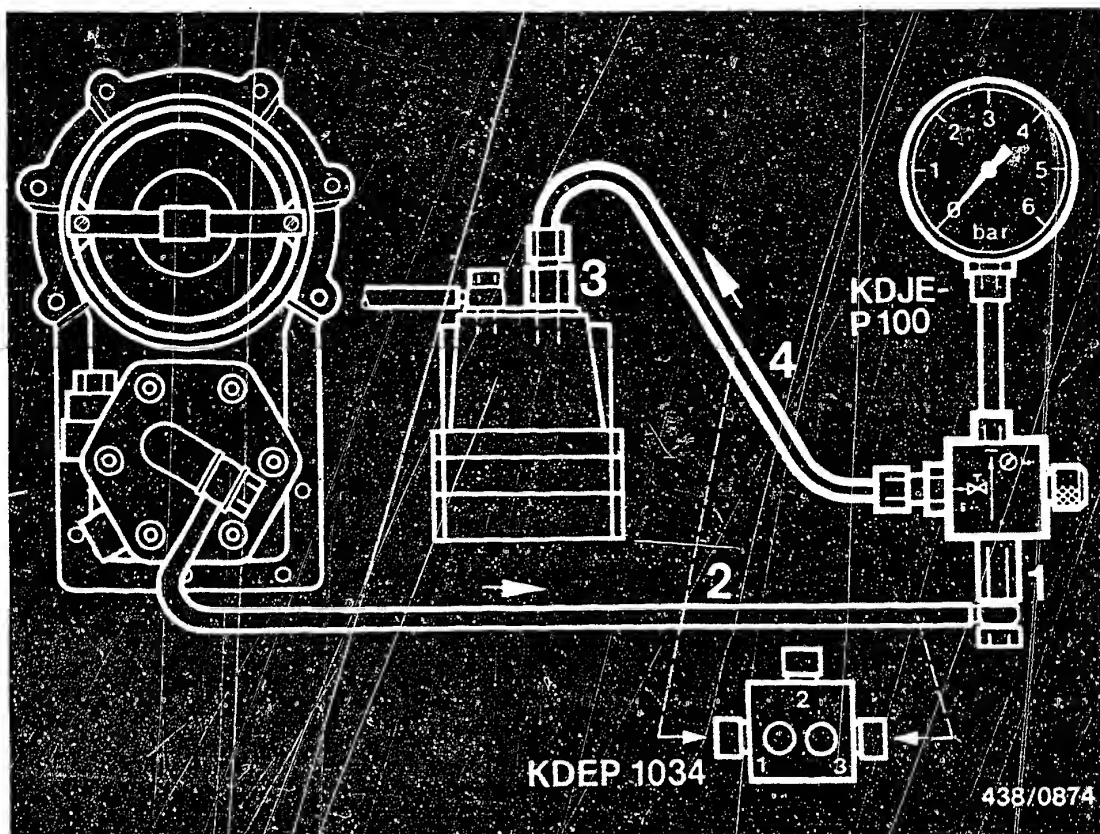
A = Inlet (from the fuel distributor)

B = Outlet (to the warm-up regulator)

Caution:

When the directional-control valve is not in use, always keep the valve screw(s) open in order to relieve the pressure on the seal rings.





The directional-control valve of the pressure tester is connected into the control-pressure line from the fuel distributor to the warm-up regulator.

Fit using connecting-parts set KDJE-P 100/12.

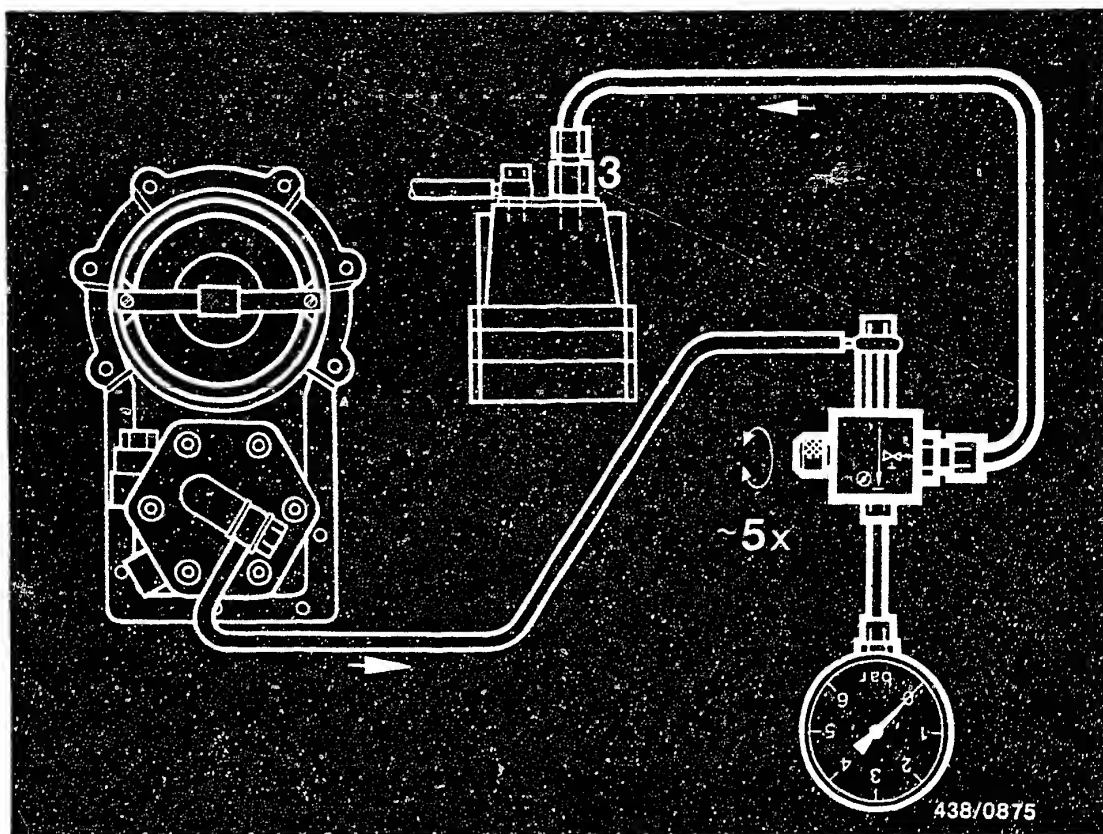
Screw the adapter (1) with seal onto inlet fitting A or 3 of the directional-control valve.

Unscrew the control-pressure line (2) on the warm-up regulator and connect with inlet-union screw M 10 x 1 and seal rings to the adapter (1).

Screw connecting piece (3) of connecting-parts set into inlet of warm-up regulator and, using hose line (4), connect to outlet fitting B or 1 of the directional-control valve.

Suspend the pressure gauge from the engine hood (possibly using a wire hook).





14.5 Bleeding the pressure tester

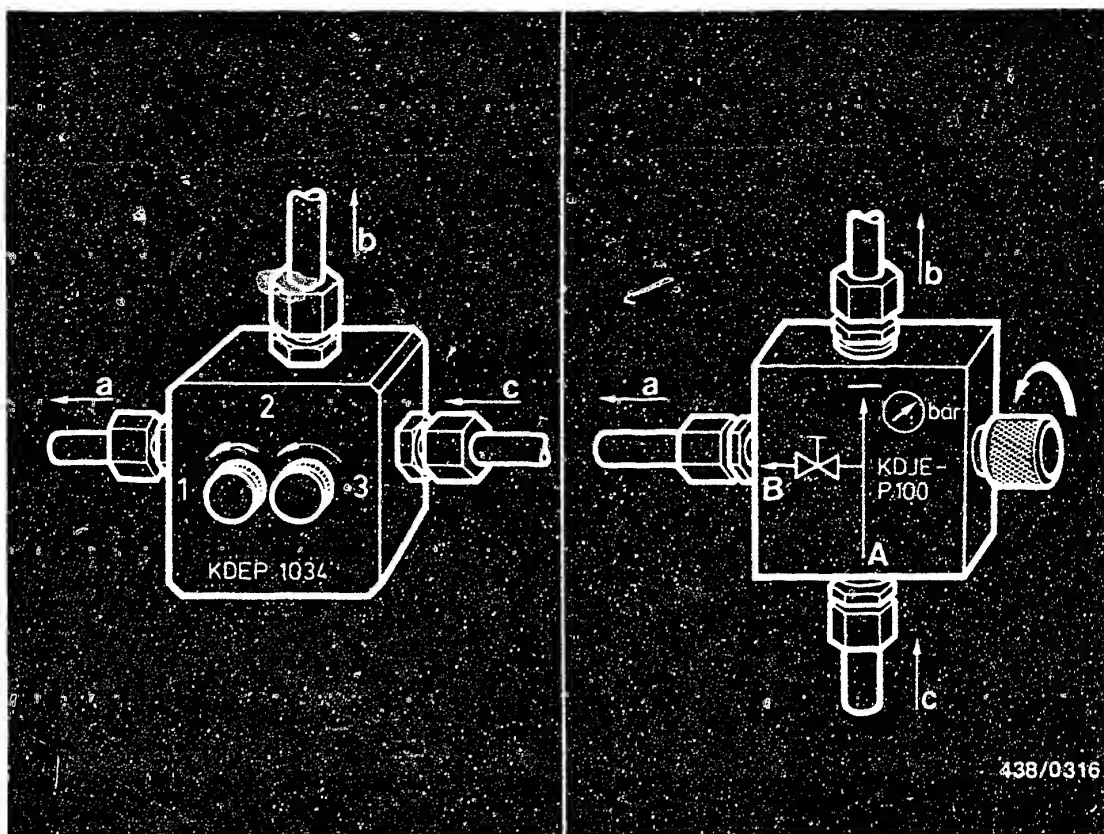
Disconnect the electric plug from the warm-up regulator. Let the pressure gauge hang down (hose fully extended).

Switch on the electric fuel pump by bridging the electrical safety circuit.

Open and close the valve screw(s) of the directional-control valve in a 10-second rhythm about 5 times.

Then hang the pressure gauge from a suitable support (e.g. from one of the struts under the engine hood). Open valve screw of directional-control valve (both screws in the case of KDEP 1034) (turning to the left).





a = To warm-up regulator
 b = To pressure gauge
 c = From fuel distributor

14.6 Testing the "cold" control pressure:

Warm-up regulator: 0 438 140 038 /047

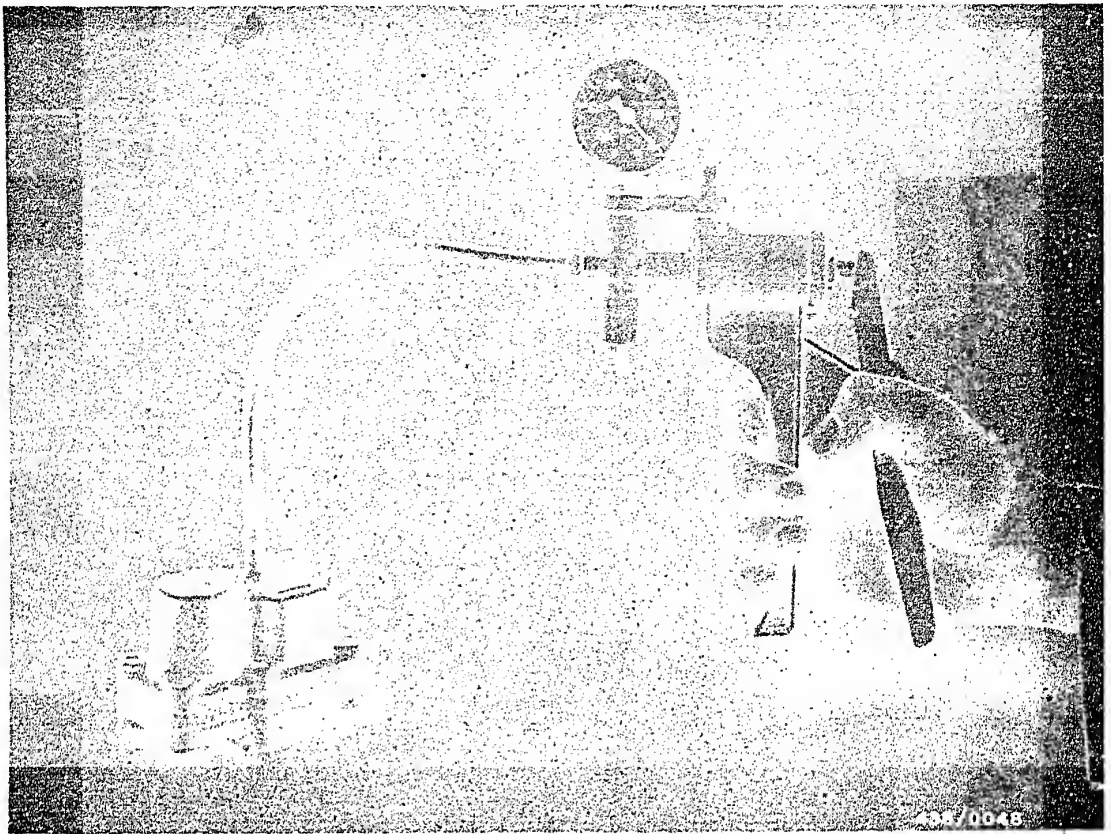
The test is performed with the engine switched off. The engine must be cold. For this purpose, the engine should have been switched off for several hours, preferably overnight.

Pull off the plug from the warm-up regulator.

Open the valve screw of the directional-control valve (both screws in the case of KDEP 1034).

Switch on the electric fuel pump by bridging the electrical safety circuit.





Part No. of warm-up regulator: 0 438 140 038/047

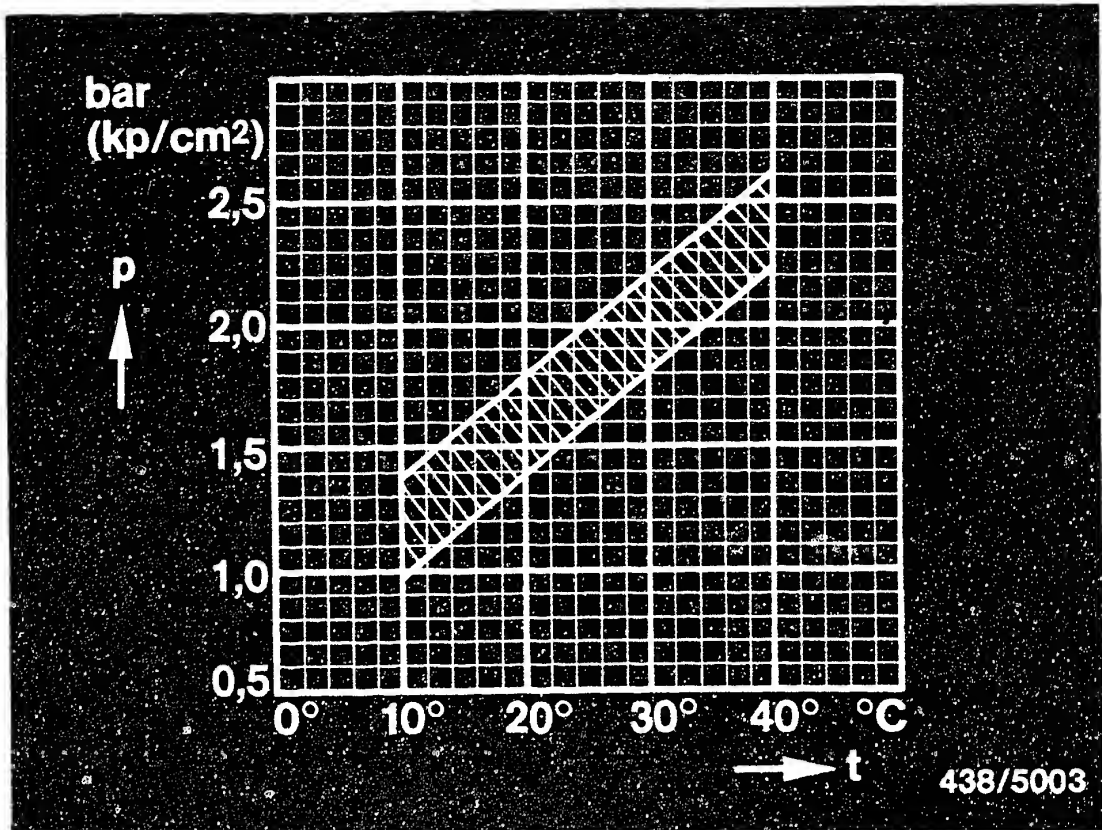
The control pressure is checked with simulated intake-manifold pressure, i.e. vacuum is applied to the warm-up regulator.

To do this, connect the vacuum pump to the intake-manifold-pressure connection port of the warm-up regulator on the top of the housing. The picture shows testing with the recommended Mityvac hand vacuum pump.

Setting value for testing: 510...550 mbar
(385...415 mmHg)

The "cold" control pressure is indicated on the pressure gauge of the pressure tester.





p = Control pressure (bar or kgf/cm² gauge pressure)
t = Ambient temperature (°C)

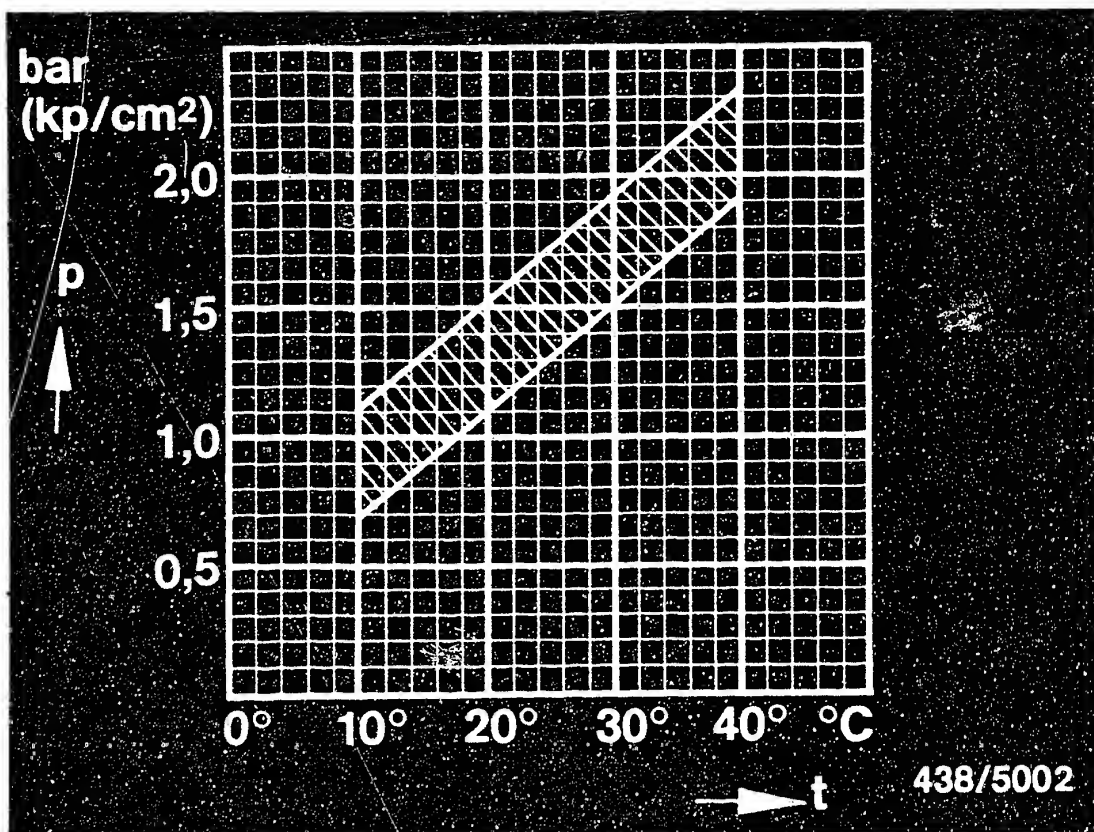
- Warm-up regulator Part No.: 0 438 140 047
(full-load enrichment design)

Calculate the nominal control pressure in accordance with the ambient temperatures in the graph.

Example: Ambient temperature = 20°C

Nominal control pressure = 1.4...1.8 bar
gauge pressure





p = Control pressure (bar or kgf/cm² gauge pressure)
 t = Ambient temperature (°C)

- Warm-up regulator Part No.: 0 438 140 038
 (full-load enrichment design)

Calculate the nominal control pressure in accordance with the ambient temperatures in the graph.

Example: Ambient temperature = 20°C

Nominal control pressure = 1.1...1.5 bar
 gauge pressure



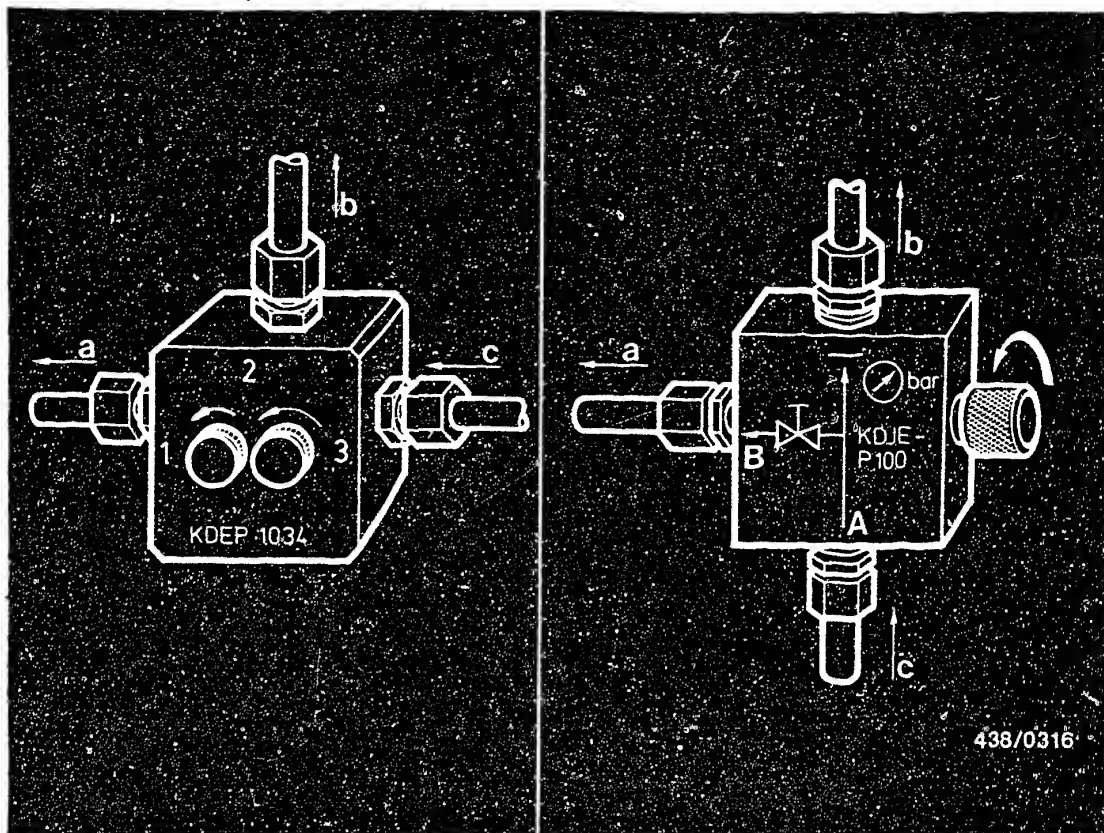
If the measured "cold" control pressure differs from the nominal value, this may be due to one of the following faults:

- Fuel delivery for the control-pressure circuit too low or too high. Test fuel delivery.
Test value: 160...240 cm³/min.
- Fuel return from warm-up regulator blocked or constricted (if control pressure too high).
Eliminate restriction.
- Warm-up regulator defective. Replace warm-up regulator.

When the warm-up regulator has been replaced or a fault remedied, carry out the idle adjustment with the engine at normal operating temperature.

Idle adjustment is described on Coordinate F 2.





a = To warm-up regulator
 b = To pressure gauge
 c = From fuel distributor

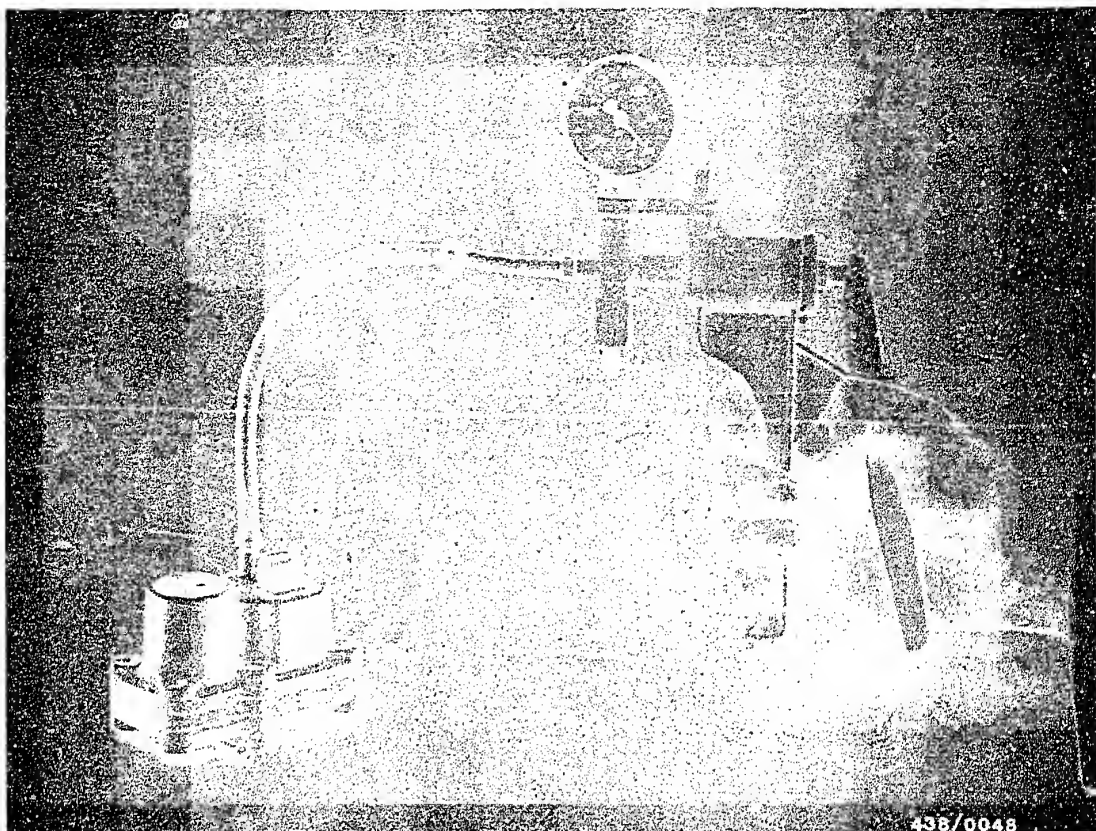
14.7 Checking the "warm" control pressure

Warm-up regulator Part No.: 0 438 140 038 /047

The test is performed with the engine switched off, once without intake-manifold pressure being applied, once with simulated intake-manifold pressure (vacuum) applied.

Open the valve screw of the directional-control valve (or both valves in the case of KDEP 1034).





- Warm-up regulator Part No. 0 438 140 038 /047

For testing with simulated intake-manifold pressure, connect the vacuum pump to the intake-manifold-pressure connection port of the warm-up regulator (on top of the housing, next to the plug housing).

The picture shows the recommended Mityvac hand pump.

Setting value for the test: 510...550 mbar
(385...415 mmHg)



Test procedure:

The temperature of the engine is not important.
Open the valve screw of the directional-control valve (both in the case of KDEP 1034).
Switch on the electric fuel pump by bridging the electrical safety circuit.

Plug the plug onto the warm-up regulator.
The control pressure increases (warm-up regulator in the process of shutting off) until the "warm" control pressure is reached.

Test first of all without the application of intake-manifold pressure, then test with simulated intake-manifold pressure (vacuum) in accordance with the values given below:

Test step	Test specifications +
<u>"Warm" control pressure</u>	
• Test with atmospheric pressure (without vacuum)	
0 438 140 047	<u>2,8...3,2 bar</u> (2,9...3,3 kgf/cm ²)
0 438 140 038	<u>3,0...3,4 bar</u> (3,1...3,5 kgf/cm ²)
• For testing, connect vacuum pump to intake-manifold-pressure connection of warm-up regulator.	
Setting value: 510...550 mbar (385...415 mmHg)	<u>3,4...3,8 bar</u> (3,5...3,9 kgf/cm ²)

+ Pressures in the test-specification table given in bar (gauge pressure) and /or in kgf/cm² (gauge pressure).



If the measured "warm" control pressure differs from the test specification, this may be due to one of the following faults:

If control pressure too high:

- Fuel delivery for the control-pressure circuit too high.

Test fuel delivery.

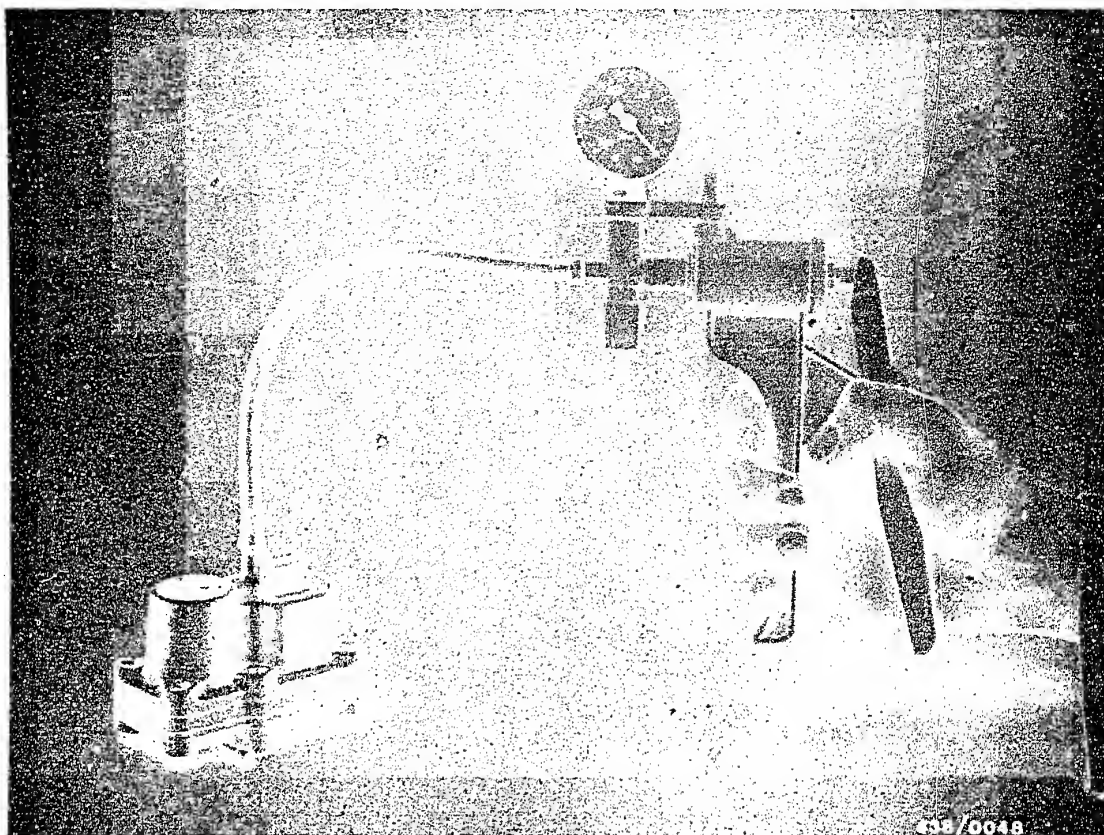
Test specification: 160...240 cm³/min.

- Fuel return from the warm-up regulator blocked or constricted. Eliminate constriction.
- Warm-up regulator has hydraulic defect. Replace warm-up regulator.

If control pressure too low:

- Power supply open-circuit. Eliminate open circuit. Ensure that the plug is contacting properly.
- Battery voltage too low, voltage drop. Eliminate voltage drop. Minimum voltage at connector: 11.5 V. If necessary, repeat test with engine running in order to obtain the normal generator voltage of approx. 14 V when the vehicle is in operation.
- Fuel delivery for the control-pressure circuit too low. Test fuel delivery. Test specification: 160...240 cm³/min.
- Warm-up regulator defective. Heating coil open-circuit. Hydraulic defect. Replace warm-up regulator.





- Testing the full-load diaphragm for leaks
on warm-up regulator 0 438 140 038
0 438 140 047

Switch off the electric fuel pump.

Connect the "Mityvac" hand vacuum pump to the intake-manifold-pressure connection port of the warm-up regulator and build up a vacuum.

Setting value: 510...550 mbar (385...415 mmHg).

Max. pressure drop within 15 s 100 mbar (75 mmHg).

If the pressure drop is too great, replace the warm-up regulator.



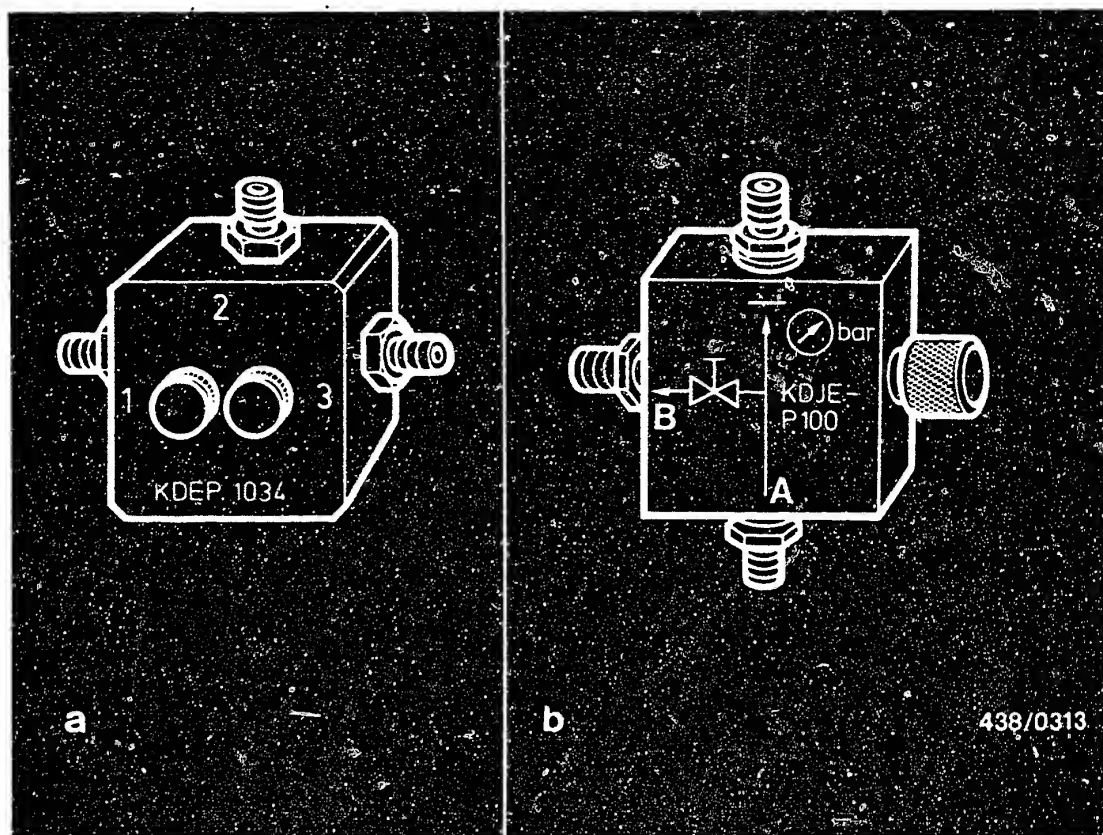
Note:

Incorrect control-pressure functions during vehicle operation may also be due to a malfunction in the intake manifold pressure control system for the warm-up regulator. Therefore, check the condition and correct fitting of the connecting hose from the intake manifold to the warm-up regulator. Check the system with the engine running and when warmed-up. This test is best combined with the final idle adjustment.

When the warm-up regulator has been replaced or a fault remedied, carry out the idle adjustment with the engine at normal operating temperature.

Idle adjustment is described on Coordinate F 2.



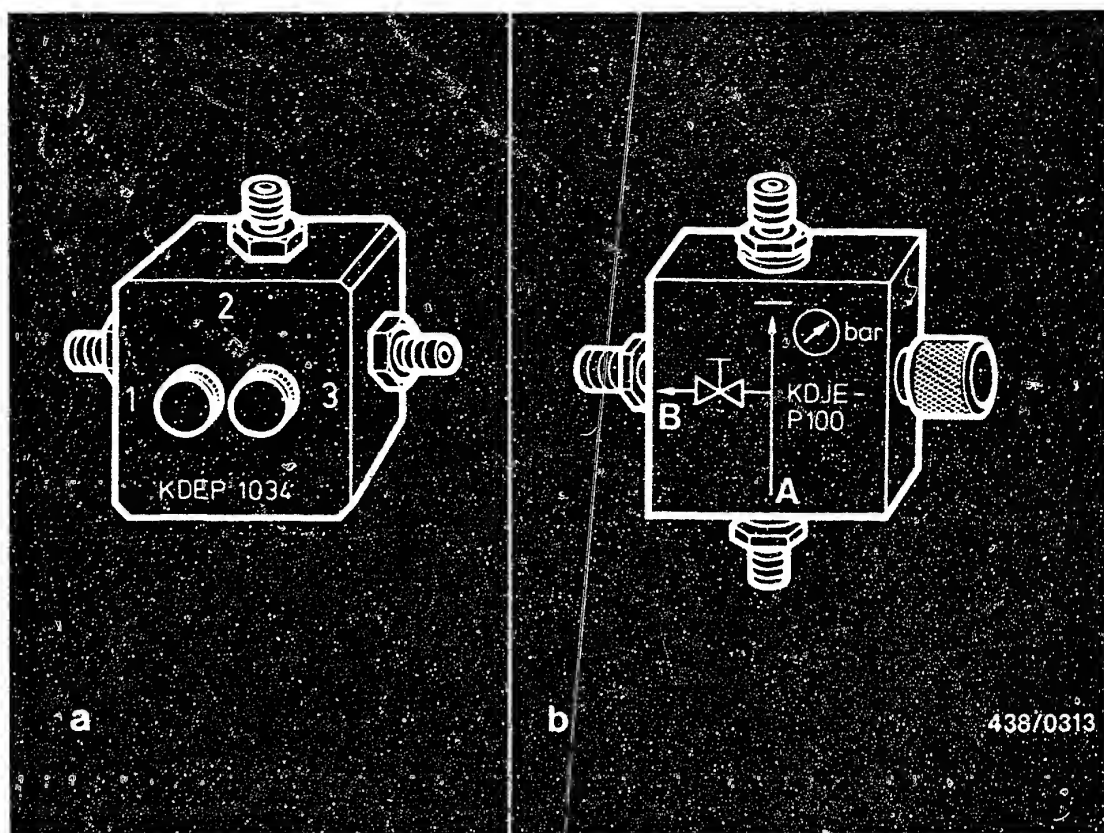


15. Testing and adjusting the primary (system) pressure:

15.1 Mounting the pressure tester KDJE-P 100 (formerly KDEP 1034):

The pressure tester KDEP 1034 is equipped with a three-way valve with 2 separate valve screws. The connections of the directional-control valve are numbered (Fig. a).



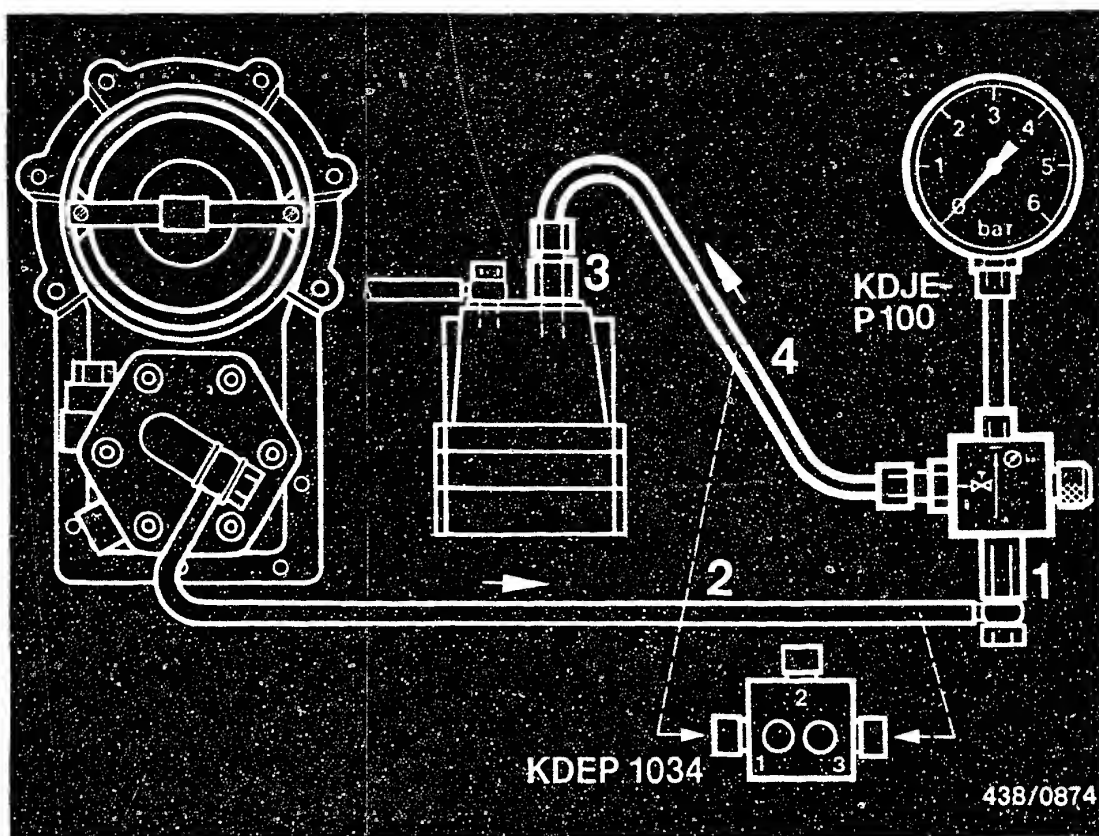


Since the end of 1979 the pressure tester KDJE-P 100 has been supplied. Its directional-control valve has only one valve screw (Fig. b). The connections of this directional-control valve are identified by symbols:

- A = Inlet (from the fuel distributor)
- B = Outlet (to the warm-up regulator)

Caution:

When the directional-control valve is not in use, always keep the valve screw(s) open in order to relieve the pressure on the seal rings.



The directional-control valve of the pressure tester is connected into the control-pressure line from the fuel distributor to the warm-up regulator.

Fit using connecting-parts set KDJE-P 100/12.

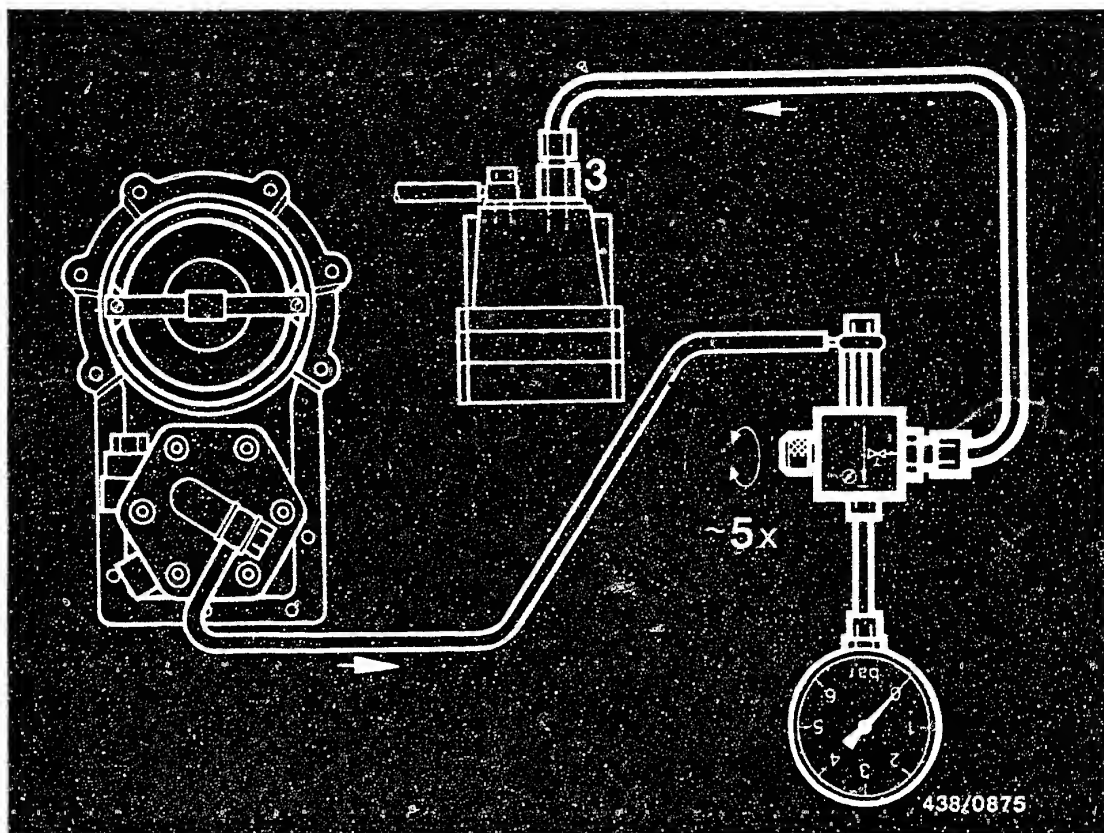
Screw the adapter (1) with seal onto inlet fitting A or 3 of the directional-control valve.

Unscrew the control-pressure line (2) on the warm-up regulator and connect with inlet-union screw M 10 x 1 and seal rings to the adapter (1).

Screw connecting piece (3) of connecting-parts set into inlet of warm-up regulator and, using hose line (4), connect to outlet fitting B or 1 of the directional-control valve.

Suspend the pressure gauge from the engine hood (possibly using a wire hook).





15.2 Bleeding the pressure tester

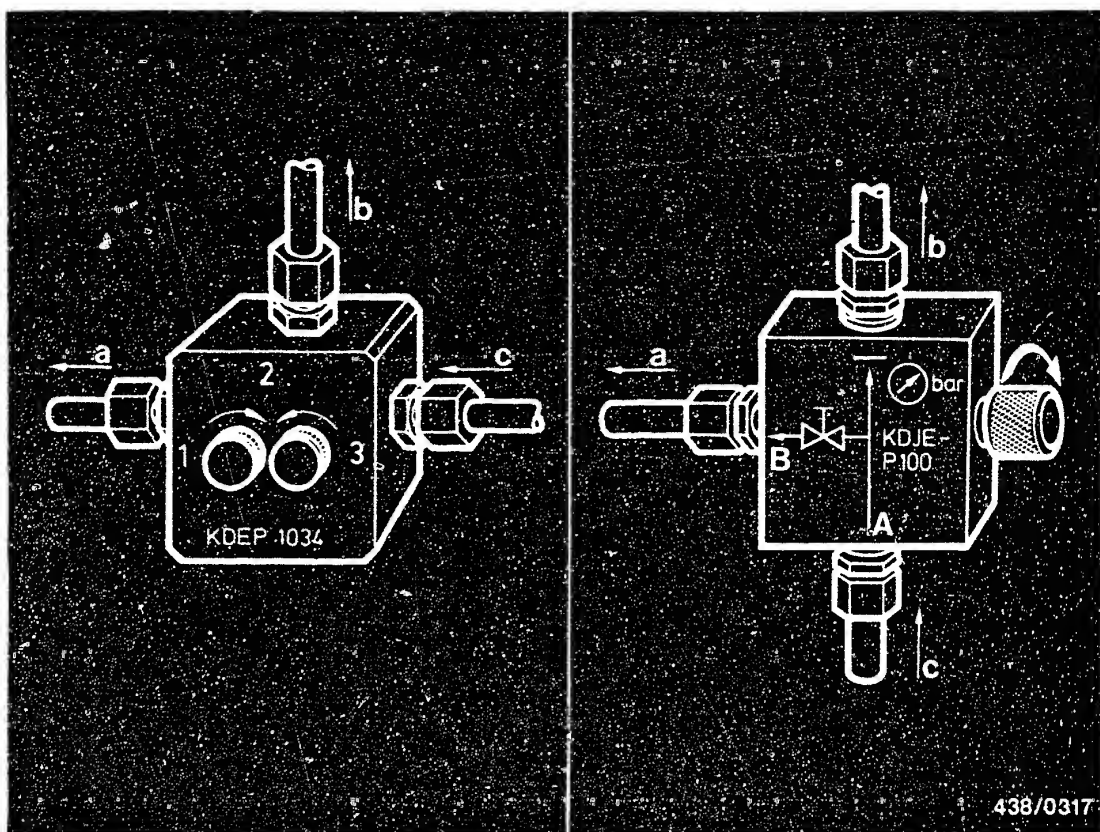
Disconnect the electric plug from the warm-up regulator. Let the pressure gauge hang down (hose fully extended).

Switch on the electric fuel pump by bridging the electrical safety circuit.

Open and close the valve screw(s) of the directional-control valve in a 10-second rhythm about 5 times.

Then hang the pressure gauge from a suitable support (e.g. from one of the struts under the engine hood). Open valve screw of directional-control valve (both screws in the case of KDEP 1034) (turning to the left).





- a = To warm-up regulator
- b = To pressure gauge
- c = From fuel distributor

15.3 Testing the primary pressure:

The test is performed with the engine switched off.
The temperature of the engine is not important.

Close the valve screw of directional-control valve KDJE-P 100. In the case of KDEP 1034, close valve screw 1, open valve screw 3.



Switch on the electric fuel pump by bridging the electrical safety circuit.

The pressure gauge now indicates the primary pressure.

Fuel distributor Part No.	Test specifications - primary pressure (gauge pressure)
0 438 100 035	4.5...5.2 bar (4.6...5.3 kgf/cm ²)
0 438 100 120	4.7...5.4 bar (4.8...5.5 kgf/cm ²)

Possible causes for too low a primary pressure:

- Fuel supply faulty
(Delivery of electric fuel pump too low).
- Primary pressure set incorrectly.

A precondition for readjustment of the primary pressure is always that the fuel supply is in order.

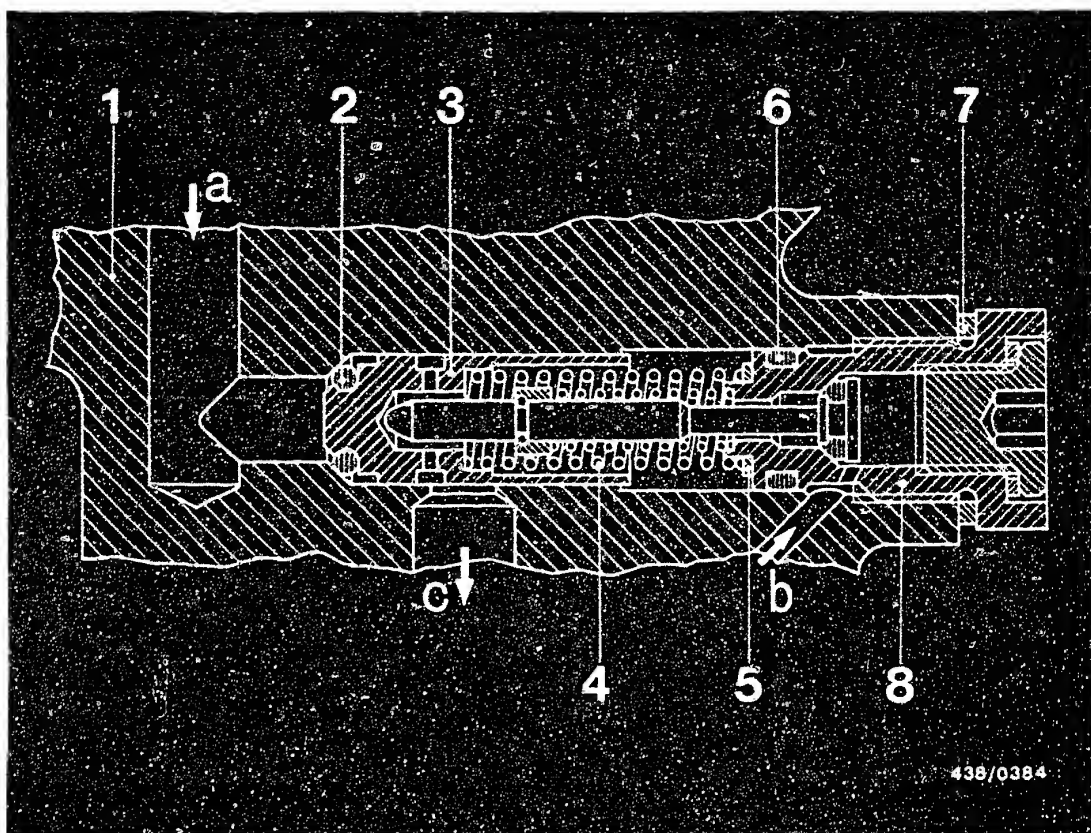
Measure the fuel delivery. (Test specification: 950 cm³/30 s.

Possible causes for too high a primary pressure:

- A restriction in the return line leading to the fuel tank.
- Primary-pressure regulator set incorrectly.

For this reason, before readjusting too high a primary pressure, always first check the condition of the return line leading to the fuel tank.

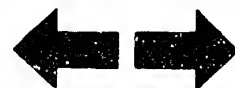


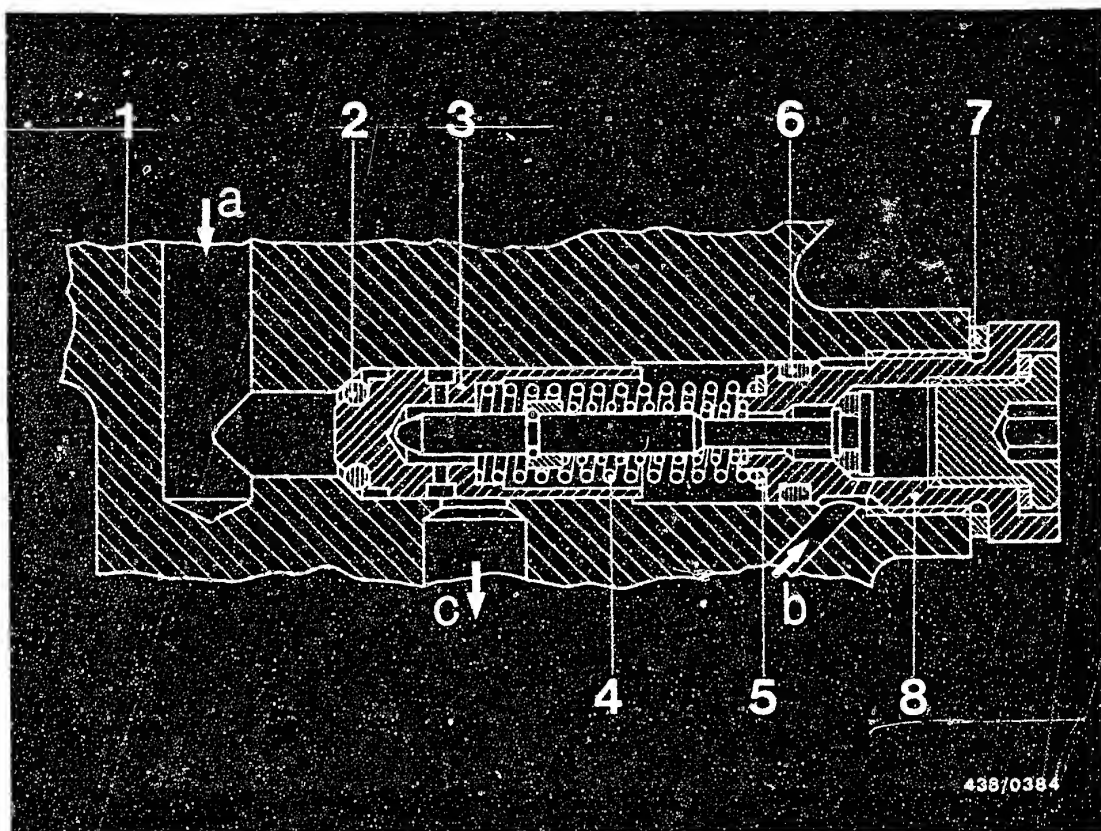


- | | |
|------------------------------|--------------------|
| a = Primary pressure | 4 = Control spring |
| b = From warm-up regulator | 5 = Shim(s) |
| c = Fuel return | 6 = O-ring |
| 1 = Fuel-distributor housing | 7 = Flat seal ring |
| 2 = O-ring. | 8 = Screw plug |
| 3 = Control piston | |

15.4 Adjusting the primary pressure:

Fuel distributor Part No.	Adjustment values - primary pressure (gauge pressure)
0 438 100 035	<u>4,7...4,9 bar</u> (4,8...5,0 kgf/cm ²)
0 438 100 120	<u>4,9...5,1 bar</u> (5,0...5,2 kaf/cm ²)





The primary pressure is readjusted by replacing the shims (Item 5).

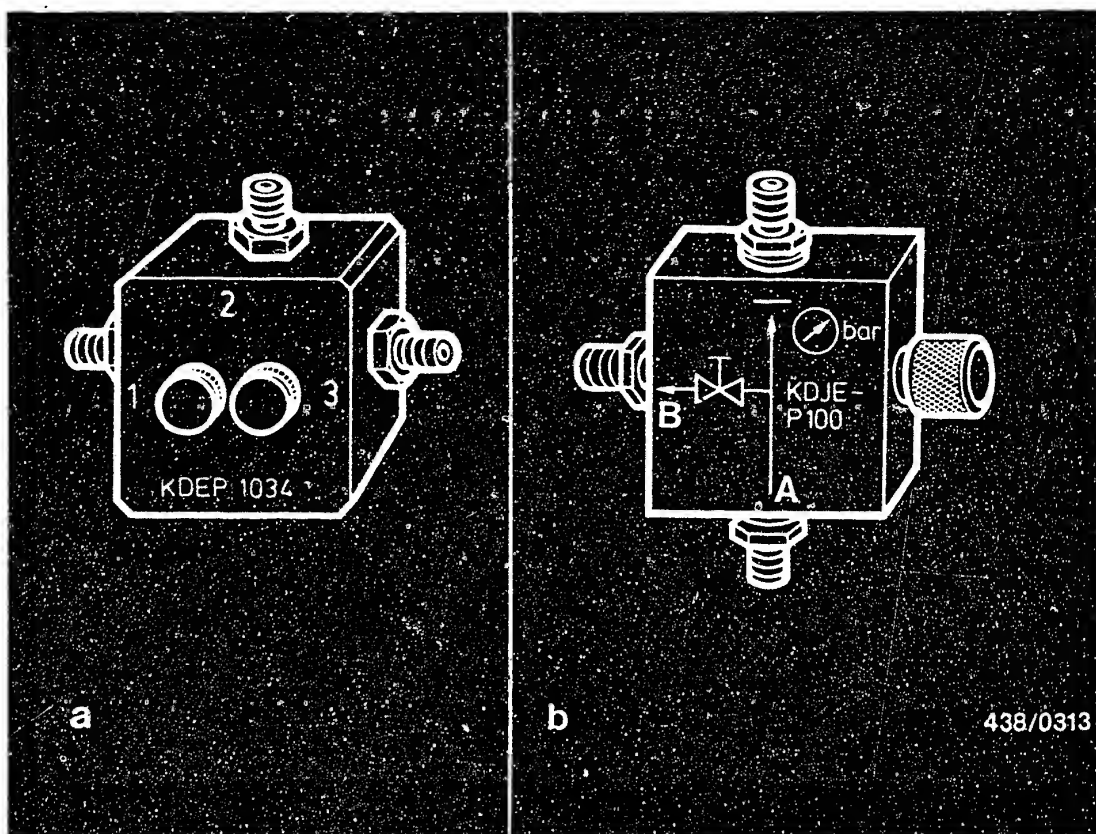
Note:

0.1 mm more of shim thickness means about 0.15 bar pressure increase and vice versa.

To do this, screw out the large screw plug (Item 8) together with the push valve. After carrying out the adjustment, always fit the screw plug with a new flat seal ring (Item 7) and O-ring (Item 6).

The control piston (Item 3) of the primary-pressure regulator must not be lost. It was matched specially to the fuel distributor housing in the manufacturing plant and therefore is the only part of the primary-pressure regulator which must not be replaced.



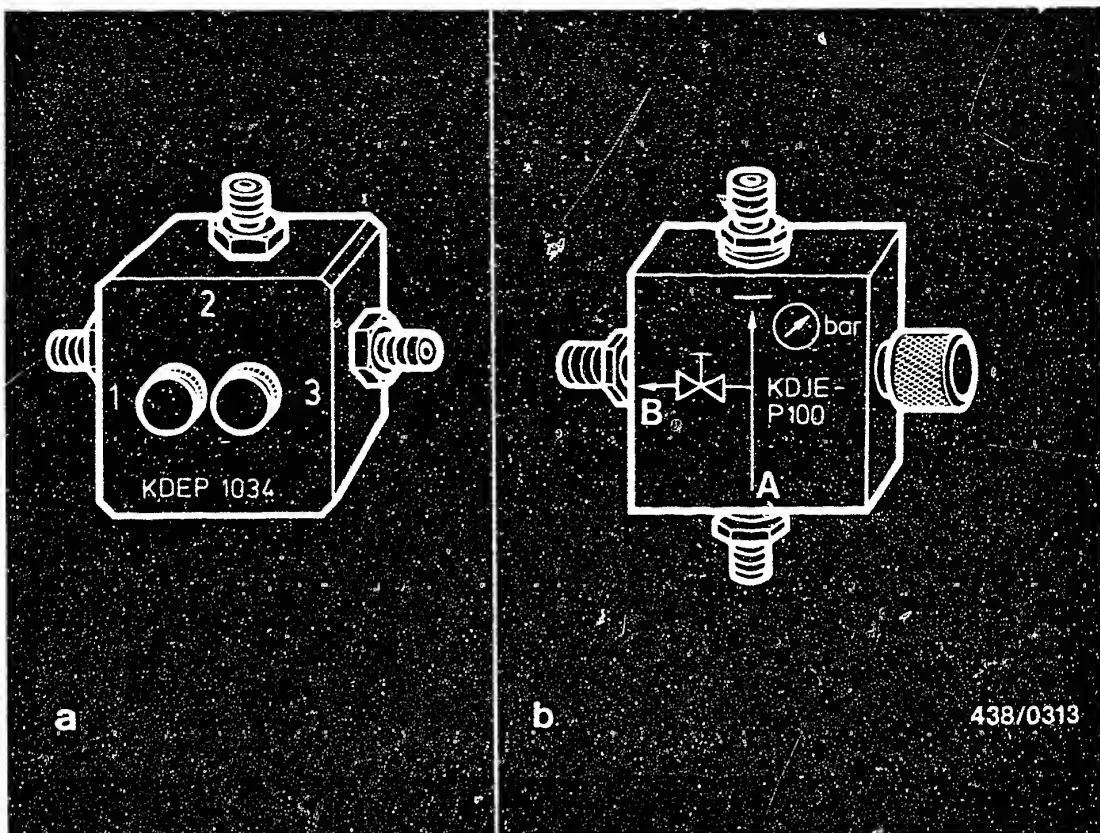


16. Testing the entire fuel system for leaks.

16.1 Mounting the pressure tester KDJE-P 100 (formerly KDEP 1034):

The pressure tester KDEP 1034 is equipped with a three-way valve with 2 separate valve screws. The connections of the directional-control valve are numbered (Fig. a).





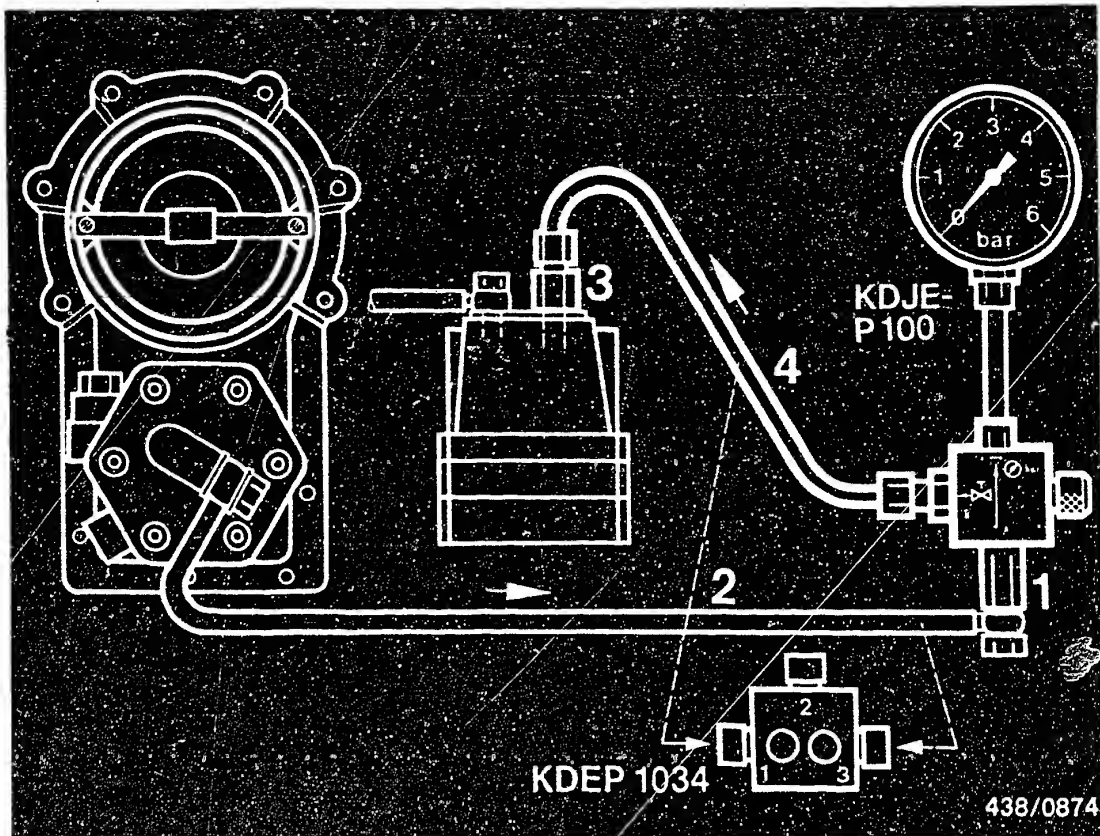
Since the end of 1979 the pressure tester KDJE-P 100 has been supplied. Its directional-control valve has only one valve screw (Fig. b). The connections of this directional-control valve are identified by symbols:

- A = Inlet (from the fuel distributor)
- B = Outlet (to the warm-up regulator)

Caution:

When the directional-control valve is not in use, always keep the valve screw(s) open in order to relieve the pressure on the seal rings.





The directional-control valve of the pressure tester is connected into the control-pressure line from the fuel distributor to the warm-up regulator.

Fit using connecting-parts set KDJE-P 100/12.

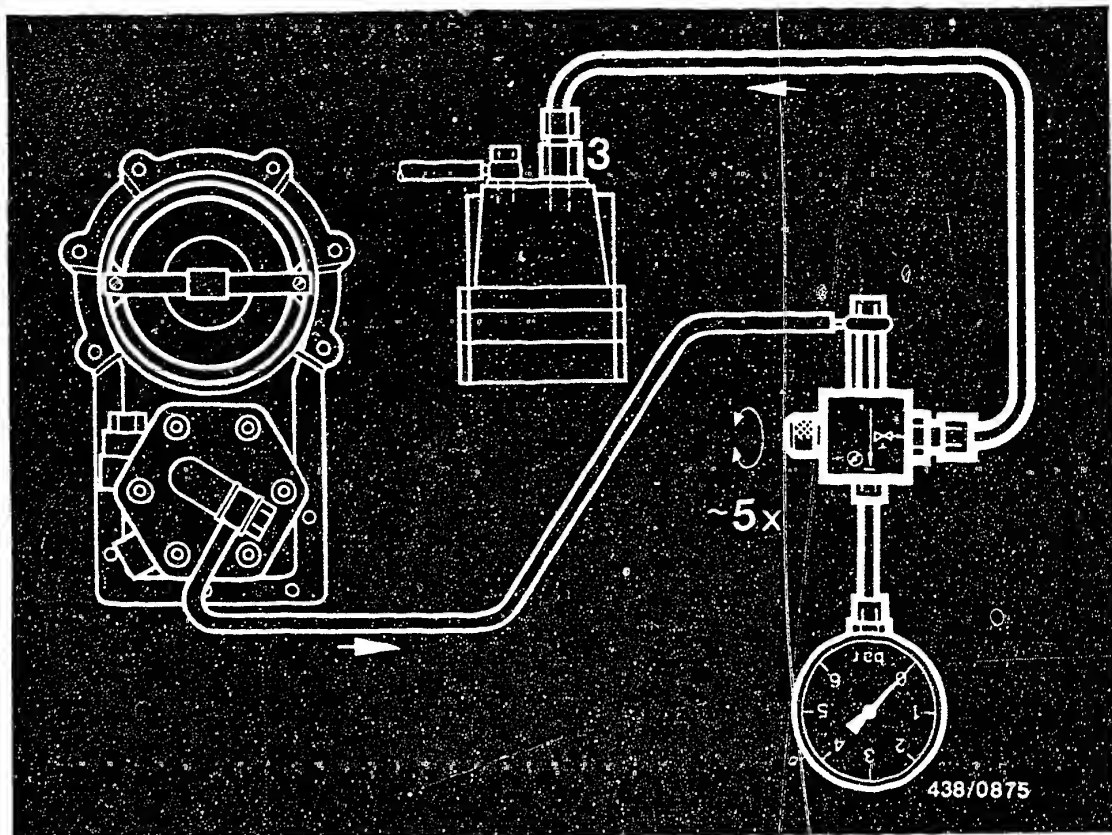
Screw the adapter (1) with seal onto inlet fitting A or 3 of the directional-control valve.

Unscrew the control-pressure line (2) on the warm-up regulator and connect with inlet-union screw M 10 x 1 and seal rings to the adapter (1).

Screw connecting piece (3) of connecting-parts set into inlet of warm-up regulator and, using hose line (4), connect to outlet fitting B or 1 of the directional-control valve.

Suspend the pressure gauge from the engine hood (possibly using a wire hook).





16.2 Bleeding the pressure tester

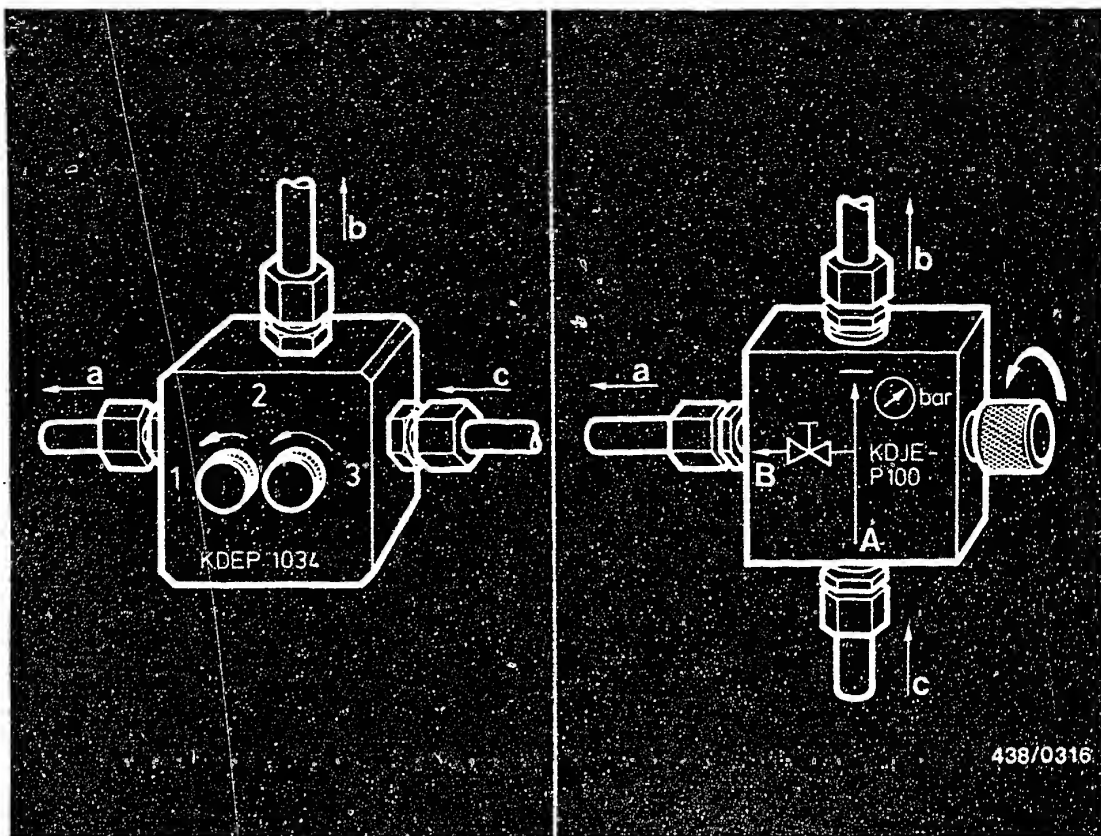
Disconnect the electric plug from the warm-up regulator. Let the pressure gauge hang down (hose fully extended).

Switch on the electric fuel pump by bridging the electrical safety circuit.

Open and close the valve screw(s) of the directional-control valve in a 10-second rhythm about 5 times.

Then hang the pressure gauge from a suitable support (e.g. from one of the struts under the engine hood). Open valve screw of directional-control valve (both screws in the case of KDEP 1034) (turning to the left).





a = To warm-up regulator
 b = To pressure gauge
 c = From fuel distributor

16.3 Leak test

The test is performed with the engine switched off. Make the test with a warm engine but not immediately after the engine has been operated at a high temperature.

Open the valve screw of the directional-control valve (both valves in the case of KDEP 1034).



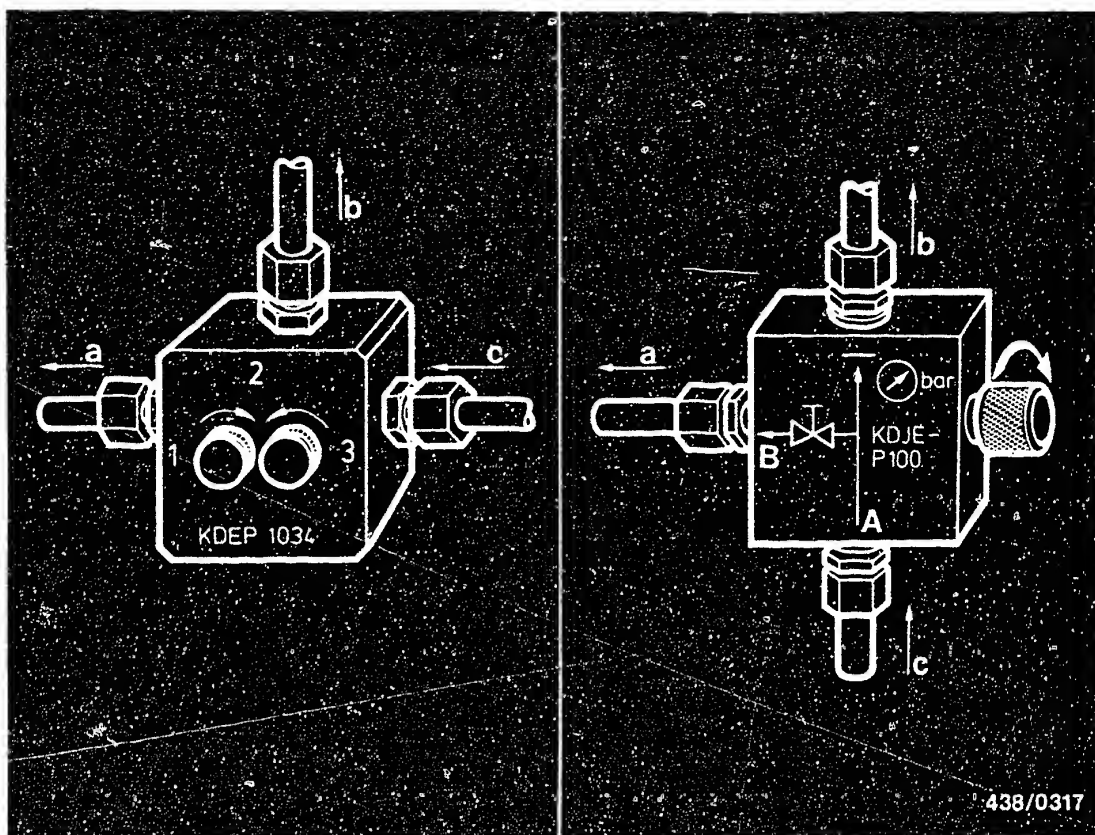
Switch on the electric fuel pump by bridging the electrical safety circuit until the warm-up regulator has ceased to operate ("warm" control pressure). Switch the electric fuel pump off again and observe the drop in pressure on the pressure gauge.

Test specifications
for leak test:

fuel accumulator

	0 438 170 014 (78/79 model)	0 438 170 010 (from 80 mod.)	0 438 170 034 (from 82 mod.)
Minimum pressure after 10 min.	1.6 bar (1.7 kgf/cm ²)	2.0 bar (2.1 kgf/cm ²)	2.7 bar (2.8 kgf/cm ²)
20 min.	1.4 bar (1.5 kgf/cm ²)	1.7 bar (1.8 kgf/cm ²)	2.6 bar (2.7 kgf/cm ²)





- a = To warm-up regulator
- b = To pressure gauge
- c = From fuel distributor

If the pressure drops too quickly, repeat the test with the control-pressure circuit disconnected.

Position of the valve screws:

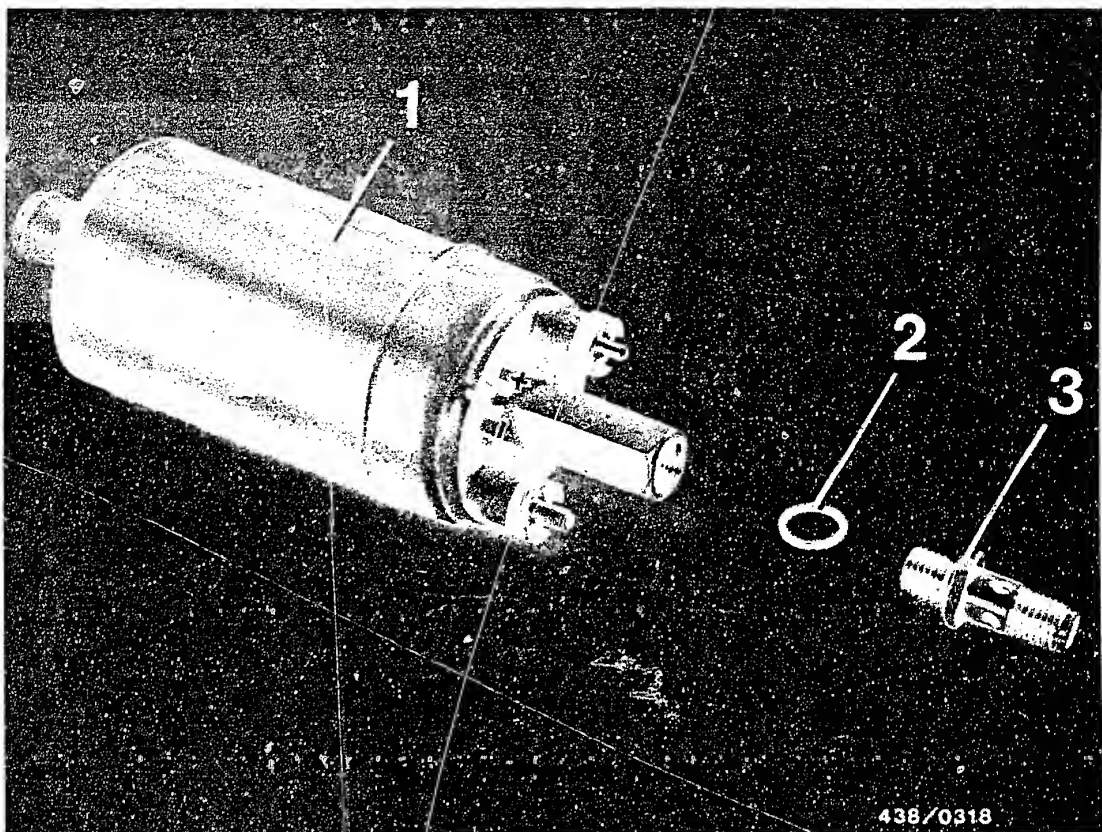
Close the valve screw of the directional-control valve KDJE-P 100.

In the case of KDEP 1034, close valve screw 1, open valve screw 2.

If the same result is found, the leak is in the primary-pressure circuit.

If the test results are correct during the second test, the leak is in the control-pressure circuit.





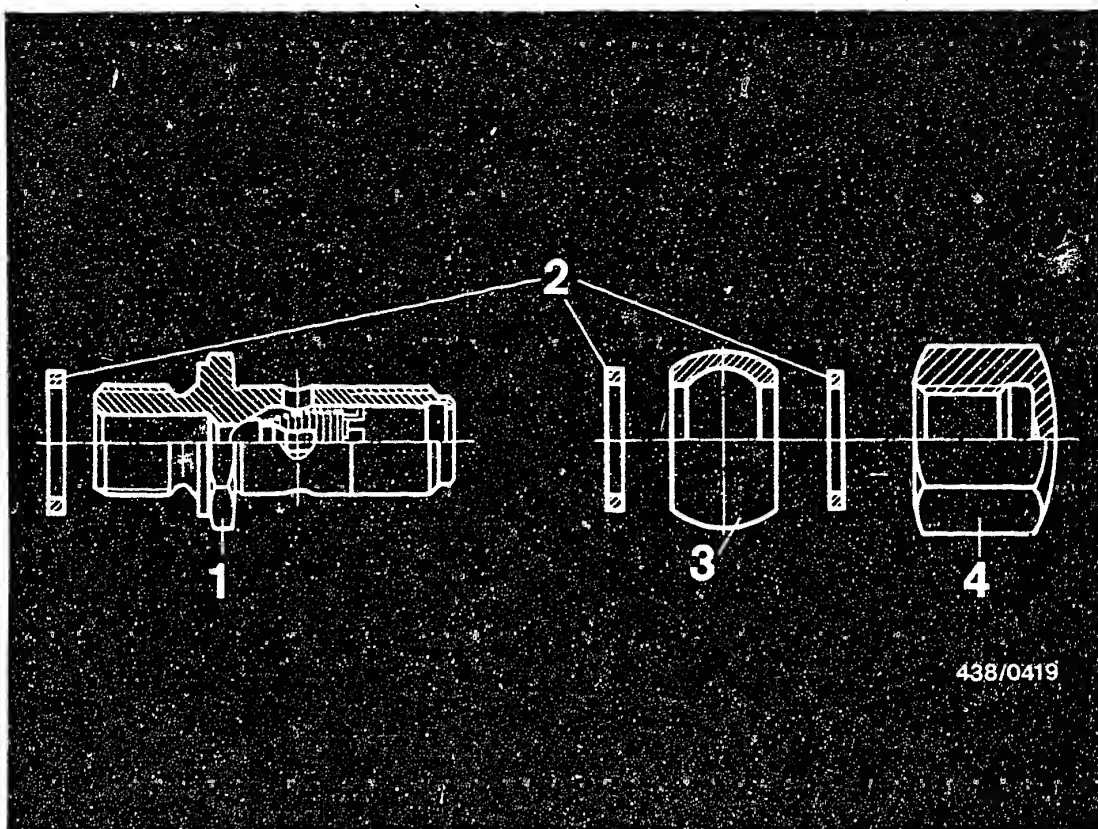
- 1 = Electric fuel pump
- 2 = Flat seal ring
- 3 = Tube fitting

16.4 Possible causes of a defect in the primary-pressure circuit:

- Non-return valve in the pressure connection piece of the electric fuel pump has a leak.

Part No. of electric fuel pump: 0 580 254 975
0 580 254 984

The non-return valve is permanently installed in the delivery fitting and cannot be replaced.



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- 1 = Screw-in fitting with built-in non-return valve
- 2 = Flat seal ring
- 3 = Inlet union
- 4 = Cap nut

To avoid changing the complete electric fuel pump when the non-return valve leaks, a parts set with separate non-return valve has been introduced for use with the above-mentioned electric fuel-pumps.

Part number of the set 1 587 010 003.



Installation:

Thoroughly clean the connection of the delivery line on the electric fuel pump.

Pinch off the intake hose (fuel tank - electric fuel pump) (e.g. using hose clamber W 157 from Matra Co.). Screw off the delivery line, collecting any escaping fuel.

The defective original non-return valve remains in the electric fuel pump.

Screw a tube fitting of the parts set (short end) with thick flat seal ring into the pressure connection piece and tighten to a torque of 17...25 Nm.

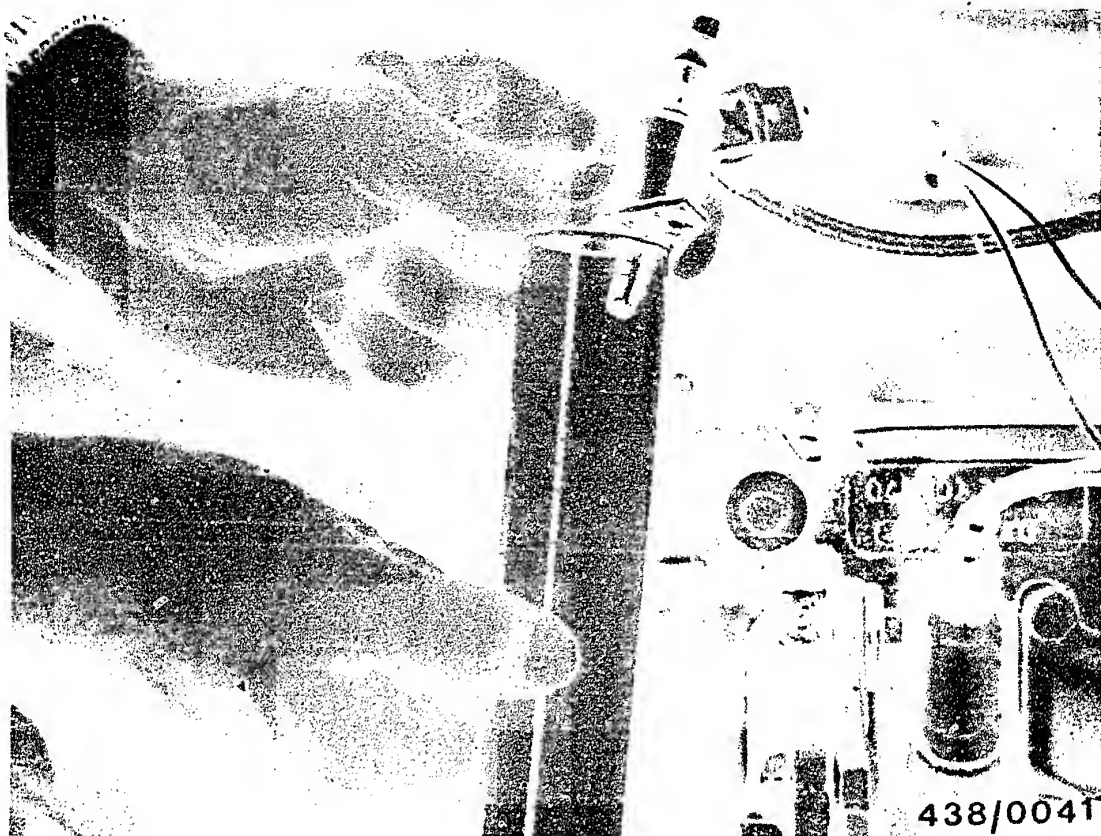
At the same time apply a wrench to the hexagonal section of the pressure connection piece.

Fit a thin flat seal ring, fuel-line inlet union and another flat seal ring onto the long end of the tube fitting and tighten with the hexagon cap nut.

Remove hose clamber from intake hose.

Check connections for leaks with the electric fuel pump in operation.





● The cold-start valve has a leak

Remove cold-start valve. Hose line remains connected.

Hold start valve in a suitable container (e.g. graduate). Switch on the electric fuel pump by bridging the electrical safety circuit.

Dry off the nozzle of the cold-start valve.

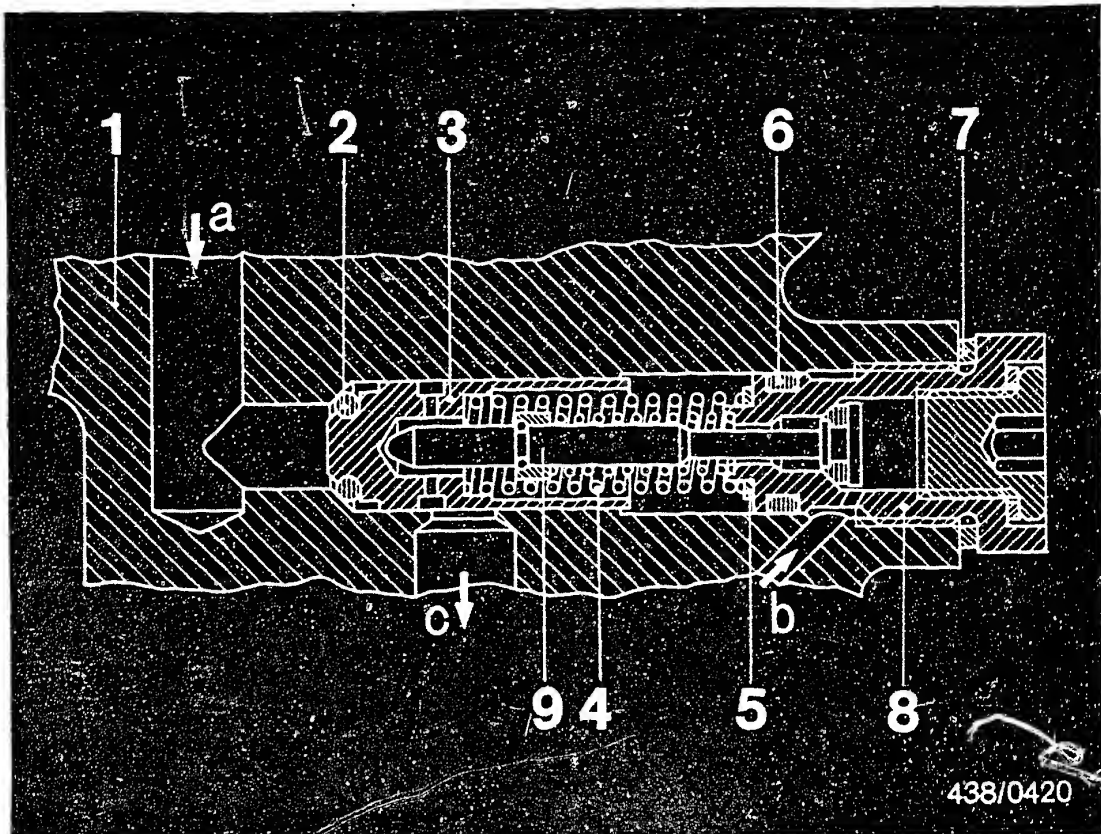
No drops must fall from the nozzle of the start valve within the next minute. Even when shaken and knocked, the start valve must not leak.

Switch the electric fuel pump off again.

Replace the cold-start valve if leaky.

Finally, adjust idle speed with the engine at operating temperature. See Coordinates F 2.





- | | |
|------------------------------|--------------------|
| a = Primary pressure | 4 = Control spring |
| b = From warm-up regulator | 5 = Shim(s) |
| c = Fuel return | 6 = O-ring |
| 1 = Fuel-distributor housing | 7 = Flat seal ring |
| 2 = O-ring | 8 = Screw plug |
| 3 = Control piston | |

- Seal ring (O-ring) on control piston of primary-pressure regulator has a leak.

Replace the seal ring.

Clean the fuel distributor in the region of the primary-pressure regulator.



Unscrew the large screw plug (8) with the complete push-up valve. Also remove the shims (5), control spring (4) and control plunger (3).

Replace the seal ring (O-ring) (2) on the control plunger. Install the control plunger and the control spring.

Screw in the screw plug with the complete push-up valve and with shims (as found when removing) and new seal rings (6 and 7).

Finally, check the primary pressure and, if necessary, adjust by changing the shims (5).

● Primary pressure

Fuel distributor 0 438 100 035

Test value: 4.5...5.2 bar (4.6...5.3 kgf/cm²) gauge pressure

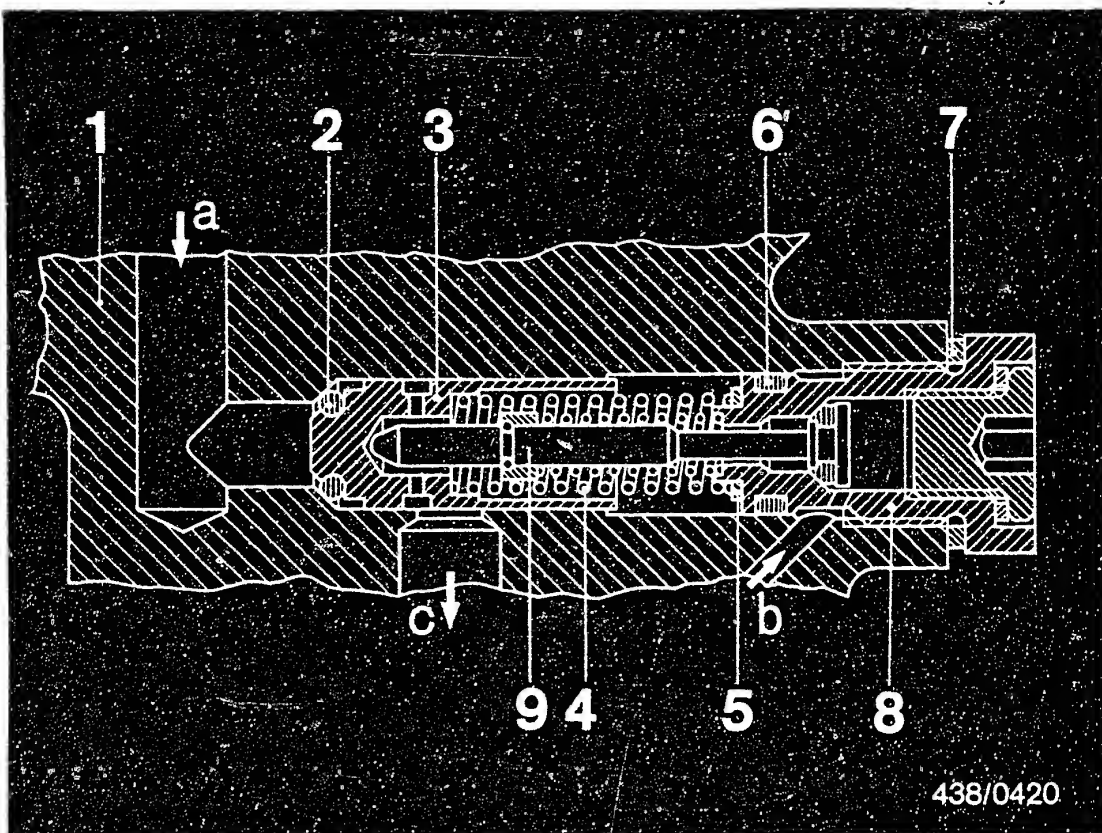
Setting value: 4.7...4.9 bar (4.8...5.0 kgf/cm²) gauge pressure

● Fuel distributor 0 438 100 120

Test value: 4.7...5.4 bar (4.8...5.5 kgf/cm²) gauge pressure

Setting value: 4.9...5.1 bar (5.0...5.2 kgf/cm²) gauge pressure



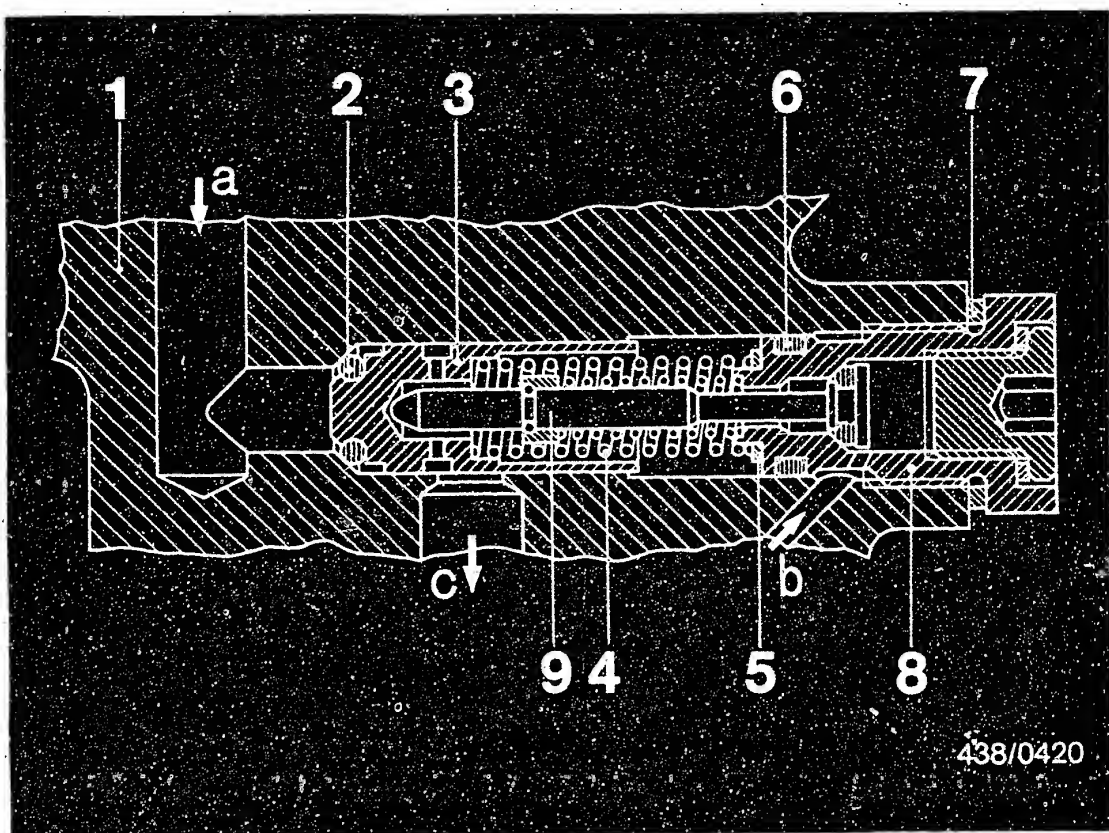


- | | |
|------------------------------|--------------------|
| a = Primary pressure | 4 = Control spring |
| b = From warm-up regulator | 5 = Shim(s) |
| c = Fuel return | 6 = O-ring |
| 1 = Fuel-distributor housing | 7 = Flat seal ring |
| 2 = O-ring | 8 = Screw plug |
| 3 = Control piston | 9 = Push valve |

16.5 Possible causes of a defect in the control-pressure circuit:

- The push valve (9) in the primary-pressure regulator has a leak. Since the seal ring of the push valve is rigidly vulcanized onto the valve needle, the whole push valve (ready-assembled unit) must be changed.





438/0420

- | | |
|------------------------------|--------------------|
| a = Primary pressure | 4 = Control spring |
| b = From warm-up regulator | 5 = Shim(s) |
| c = Fuel return | 6 = O-ring |
| 1 = Fuel distributor housing | 7 = Flat seal ring |
| 2 = O-ring | 8 = Screw plug |
| 3 = Control piston | 9 = Push valve |

Clean the fuel distributor in the region of the primary-pressure regulator. Screw out the large screw plug (8) together with the complete push valve. Pay attention to control spring (4) and shims (5). Screw in new push valve using the number of shims (5) as when removed, new O-ring (6) and flat seal ring (7). Finally, check the primary pressure and, if necessary, adjust by changing the shims (5).



Primary pressure, test and setting values
(gauge pressure)

- Fuel distributor Part No. 0 438 100 035

Checking value: 4.5 ... 5.2 bar (4.6 ... 5.3 kgf/cm²)

Setting value: 4.7 ... 4.9 bar (4.8 ... 5.0 kgf/cm²)

- Fuel distributor Part No. 0 438 100 120

Checking value: 4.7 ... 5.4 bar (4.8 ... 5.5 kgf/cm²)

Setting value: 4.9 ... 5.1 bar (5.0 ... 5.2 kgf/cm²)



17. Testing the injection valves.

Remove the injection valves for testing.

When loosening the fuel lines, apply counter-force at the fixed hexagon of the injection valves.

When refitting the injection valves, it is best to replace the O-rings on the valve stem (Renault service part) in order to prevent leaks and thus the entry of unmetered air.

17.1 Test equipment and test media

The following testing specification refers to valve testers KDJE-P400 (previously KDEP 7452) and 0 681 200 700.

Observe the test-media specification!

Test media: Calibrating fluid (Shell K 30, Esso-Varsol, Shell Mineral Spirits 135)

or

Bosch Part No. VS 14 942-CH

Former Part No. 5 973 340 650

The calibrating fluid can be obtained in 5 l metal cans from the following supplier:
Firma

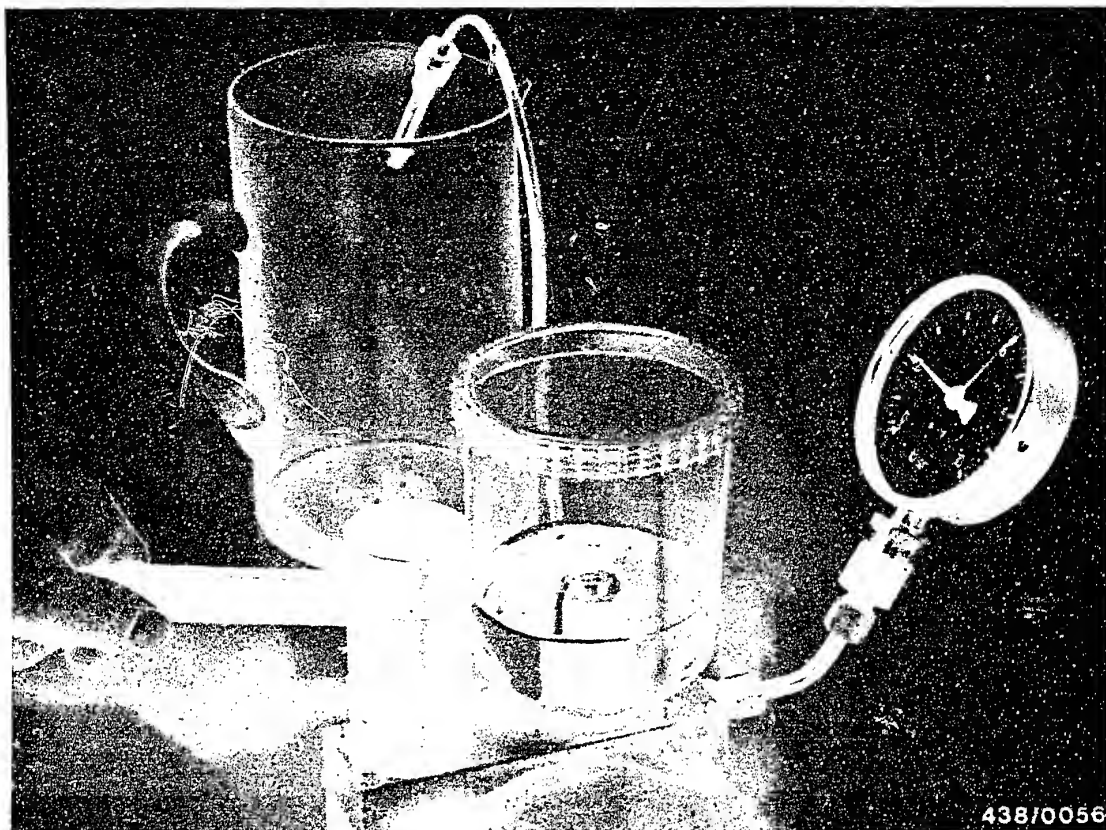
Oskar Gnam GmbH & Co

D-7531 Kämpfelbach-Bilfingen

Caution:

For safety reasons, never use normal gasoline or similar easily inflammable and combustible liquids. Even with calibrating fluid, be sure to observe the local official regulations.





17.2 Connecting the injection valve to the tester

Connect injection valve to valve tester and bleed the discharge tubing by moving the lever back and forth several times with the union nut open. Then tighten the union nut. For injection valve 0 437 502 013 use double nipple 2 433 356 045.

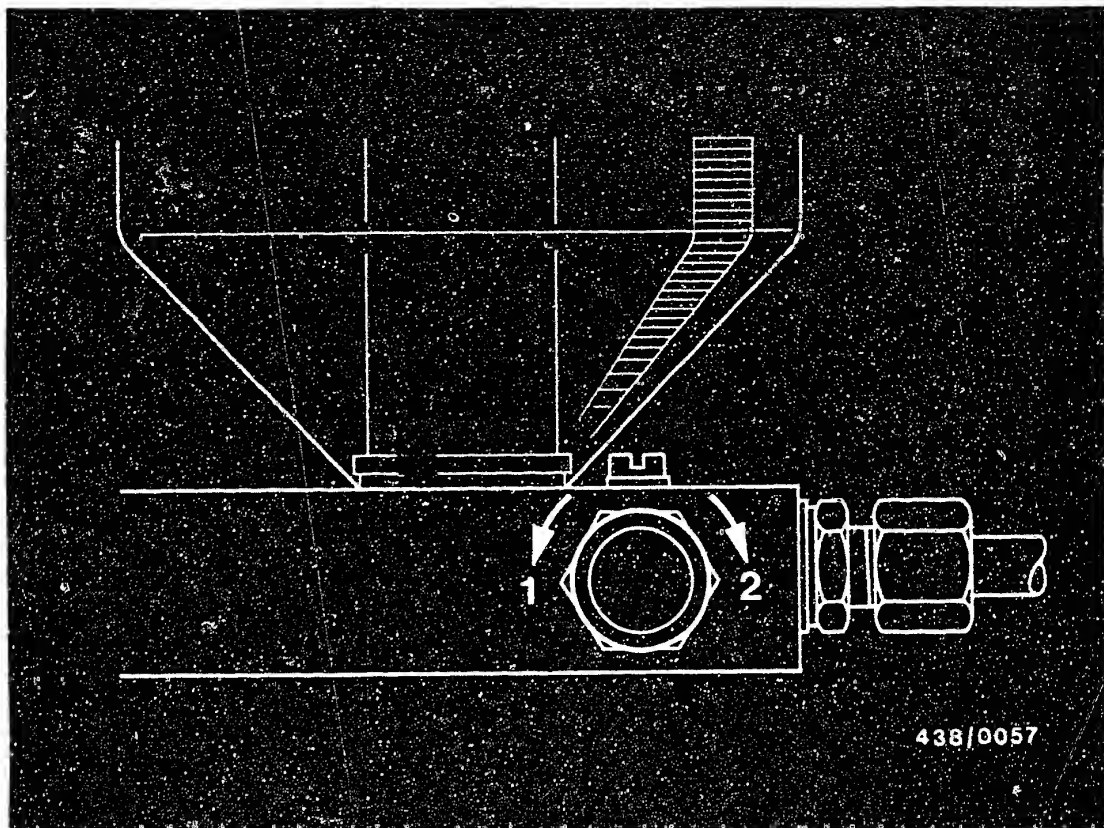
17.3 Checking for dirt

Move the hand lever slowly (about 2 seconds per stroke) back and forth with the stopcock on the pressure gauge open. If the pressure does not build up to 1...1.5 bar gauge pressure, the injection valve has a bad leak (caused, for example, by dirt stuck in it).

You can try to flush the injection valve clear by moving the lever back and forth several times strongly.

If this attempt is successful, continue the test. If it is not possible to flush the valve clear, replace it.





1 = Open

2 = Close

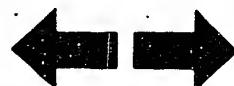
17.4 Testing the opening pressure

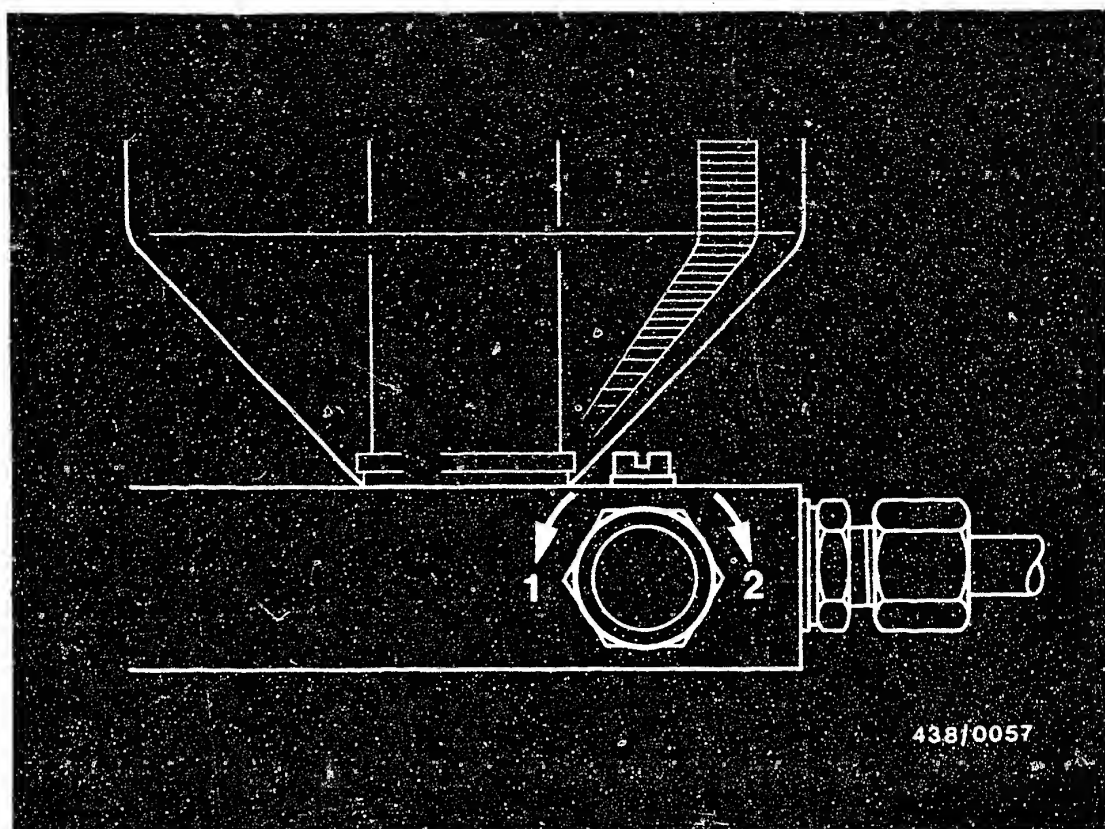
Injection valve Part No.	Test specifications - opening pressure (gauge pressure)
0 437 502 013	2.7...3.8 bar (2.8...3.9 kgf/cm ²)
0 437 502 010	3.0...4.1 bar (3.1...4.2 kgf/cm ²)

E7

Testing the injection valves

Peugeot 604 Ti, 504 Ti Coupé



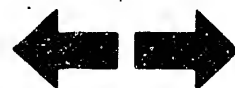


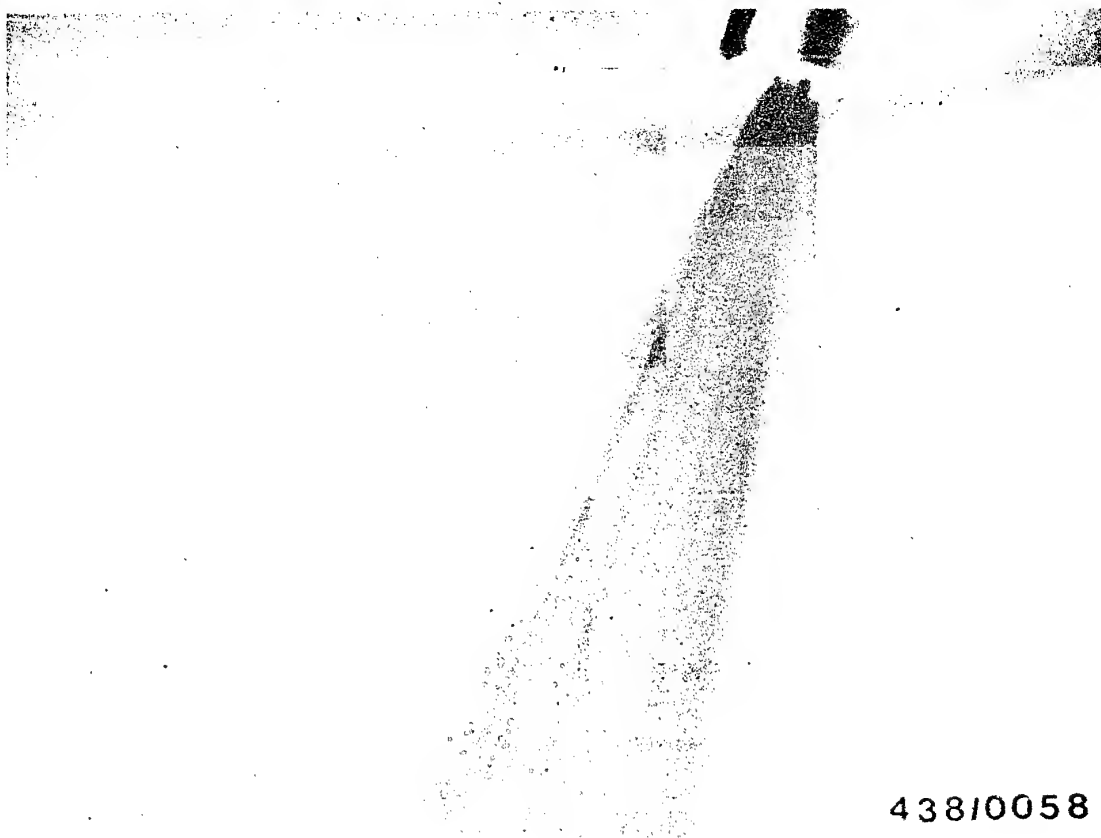
With the stopcock closed, flush the valve out and bleed it with several rapid movements of the lever. Open the stopcock and test the opening pressure by moving the lever slowly (about 2 seconds per stroke).

If the opening pressure is outside tolerance, replace the injection valve. Individual valves can also be interchanged within a set.

17.5 Leakage test

Open the stopcock, build the pressure up slowly to a value 0.5 bar under the opening pressure determined previously (but not less than 2.8 bar gauge pressure), and hold it constant at that level. No drops must now fall from the valve for the next 15 seconds.





438/0058

17.6 Chatter test, evaluation of spray

Move the lever back and forth at about 1 stroke per second. As this is done, the valve must chatter. No drops of fuel must form at the mouth of the valve. The valve must not produce a "cord spray". Formation of a single-sided, atomized spray within an overall spray angle of about 35° is permissible (see example given in illustrations).

Illustration shows good spray formation.





438/0059

Illustration shows single-sided but nevertheless good spray formation.

E10

Testing the injection valves
Peugeot 604 Ti, 504 Ti Coupé





438/0060

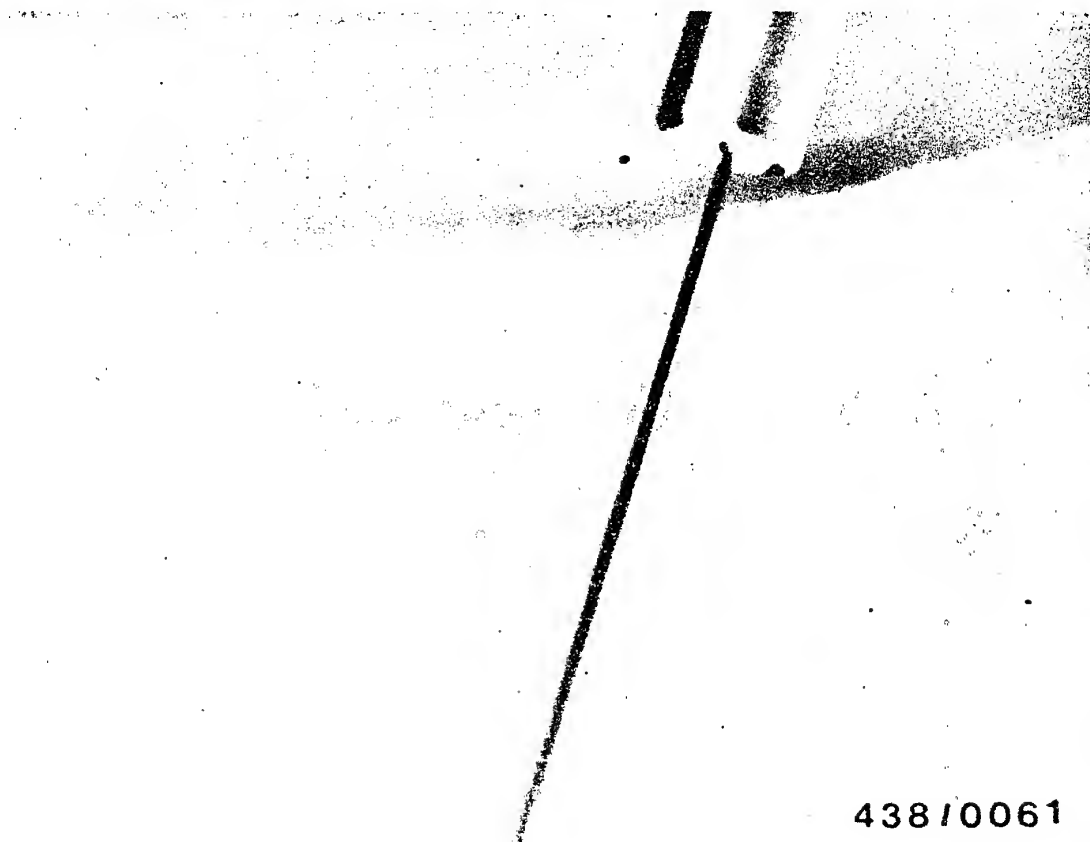
Poor spray formation; replace injection valves.

Illustration shows drop formation.

E11

Testing the injection valves
Peugeot 604 Ti, 504 Ti Coupé



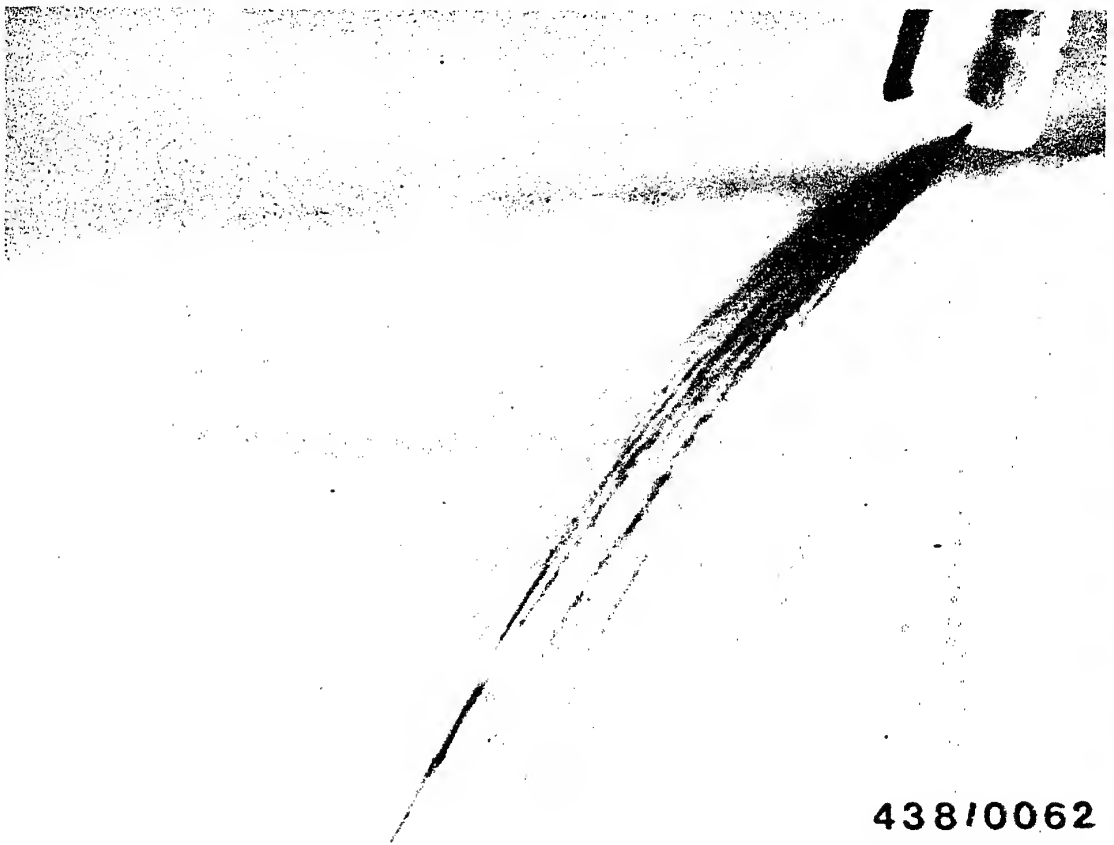


438/0061

Poor spray formation; replace injection valves.

Illustration shows "cord" spray.





438/0062

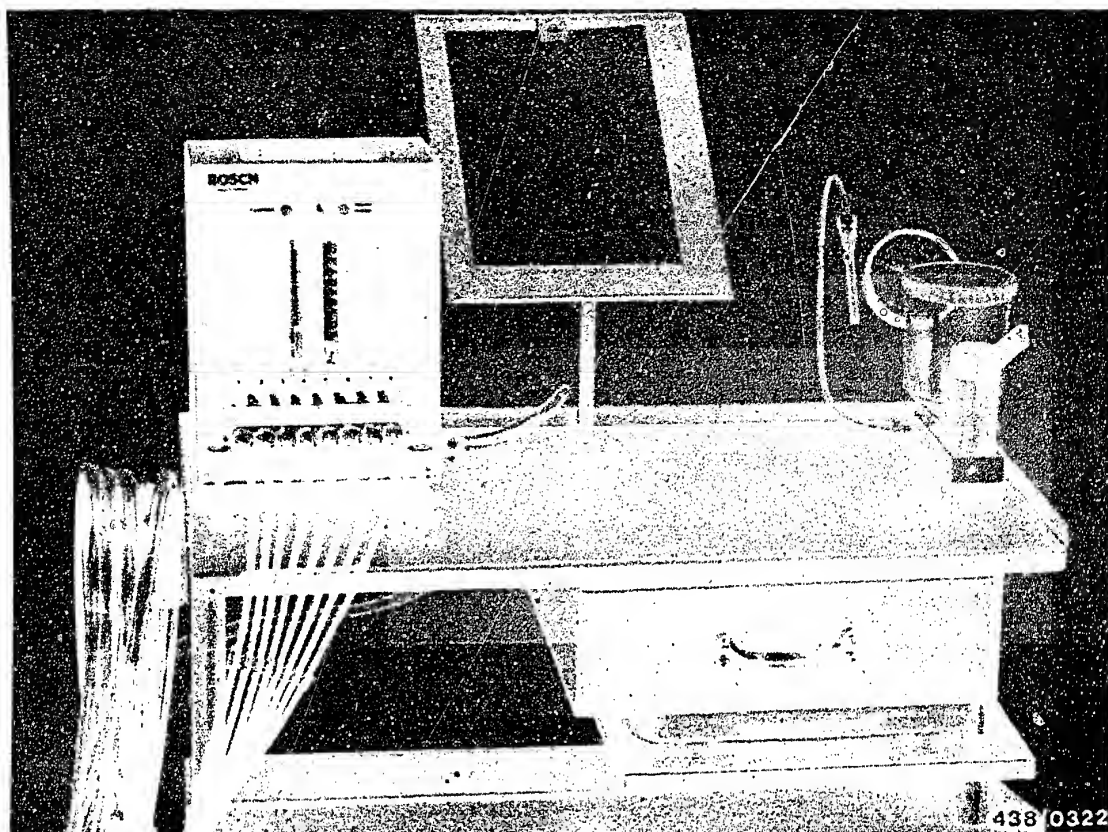
Poor spray formation; replace injection valves.

Illustration shows "spray in strands".

If defective injection valves have been replaced, it is necessary finally to adjust the idle speed with the engine at normal operating temperature.

Idle-speed adjustment is described on Coordinates F2..





18. Comparative measurement of fuel delivery of fuel distributor outlets.

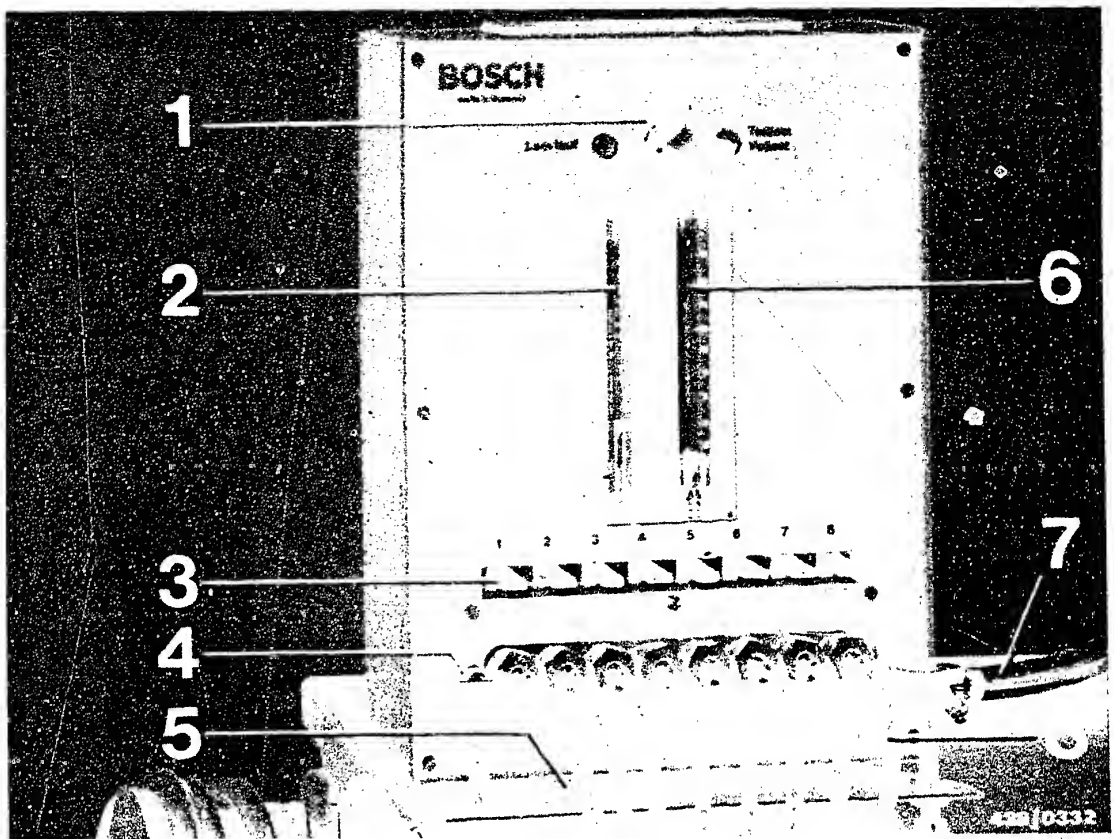
This test is carried out using the tester for delivered quantity comparison KDJE-P 200 (previously KDJE 7451).

18.1 Application

By means of comparative measurements, the differences in the amounts of fuel delivered from the individual outlets on the fuel distributor are determined. The tester is designed so that the test can be made on the vehicle without having to remove the fuel distributor.

Since the test is made with the original injection valves, the operator can recognize at the same time whether delivered-quantity scatter, if it occurs, is caused by the fuel distributor or by the injection valves.





- 1 = 3-way cock
- 2 = Small rotameter tube
- 3 = Keyboard for 8-way valve
- 4 = Adjusting screw for setting up
- 5 = Spirit level
- 6 = Large rotameter tube
- 7 = Return hose
- 8 = Polyamide hose lines (test lines)

18.2 Construction

The tester is designed for use with all engines, up to 8 cylinders, equipped with K-Jetronic.

Basically, the tester consists of a steel housing containing 2 rotameter tubes with measuring ranges of 2...15 cm³ and 10...180 cm³, an 8-way valve for key operation (Item 3) and a 3-way stopcock (Item 1).

The small rotameter tube (Item 2) is used for the idle measurement while the large tube (Item 6) is used to measure the fuel delivery at part- and full-load.

The particular rotameter tube to be used is connected by means of the 3-way stopcock.

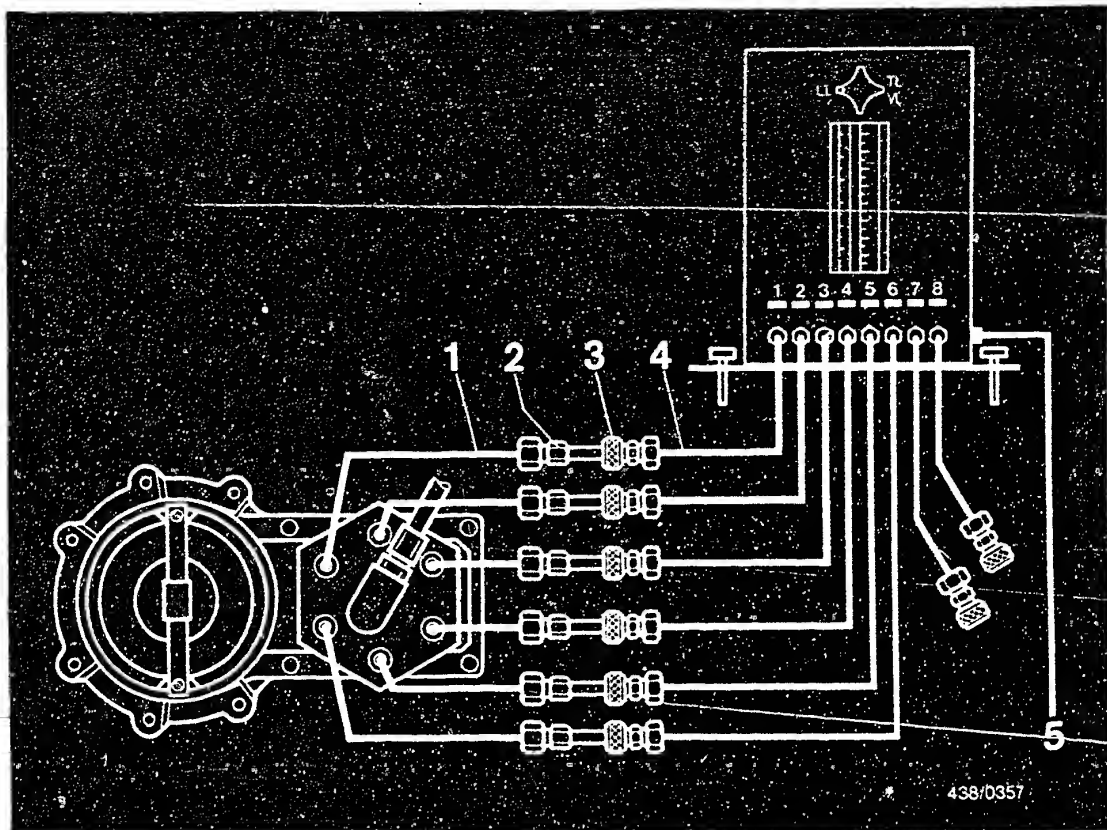
Using the 8-way valve, the fuel delivery of each cylinder is tested one after the other.

Attached to the tester are 8 hoses (Item 8), each terminated with an automatic connector. When the injection valves are withdrawn from their sockets on the engine they are attached to these connectors. Each automatic connector is fitted with a push valve so that no fuel can escape from connectors that are not in use (when 4- or 6-cylinder systems are tested).

The fuel is returned to the fuel tank through a hose (Item 7) about 5 m long.

The entire test is made with a closed circuit, i.e. no fuel escapes.





- 1 = Fuel distributor injection tubing
- 2 = Injection valves
- 3 = Automatic connectors
- 4 = Tester hoses
- 5 = Return line to fuel tank filler neck

18.3 Setting up and connecting the tester:

Set the tester up beside the engine on a solid base (e.g. on tester trolley KDJE-W 100) and align it with the built-in spirit level at the base of the tester.



Remove injection valves; the injection tubing remains connected.

Clean the injection valves with a rag and insert injection valves in correct sequence into the automatic connectors of the first four tester hoses.

Note:

Insert the injection valves as far as they will go and tighten the knurled thumbscrews well so that the non-return valves of the automatic connectors are open fully. Introduce the return hose of the tester into the fuel tank filler neck.

18.4 Bleeding the tester:

Remove the rubber hood so that air-flow sensor plate becomes accessible.

Remove the electric plugs from the warm-up regulator and the auxiliary-air device.

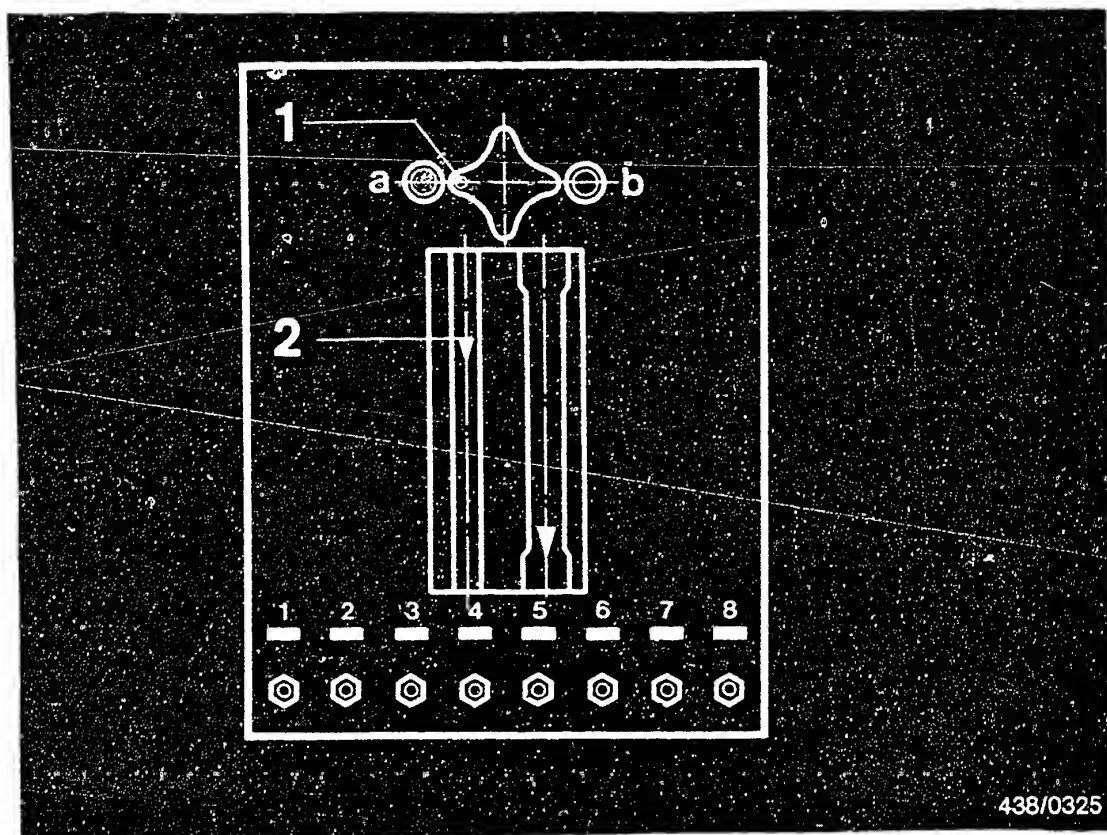
Switch on the electric fuel pump by bridging the electrical safety circuit.

Raise the air-flow sensor plate to the stop.

Press the keys on the 8-way valve one after the other, while simultaneously switching the 3-way stopcock until both rotameter tubes are bled.

Return the sensor plate to the rest position.



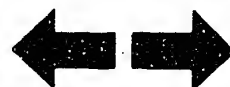


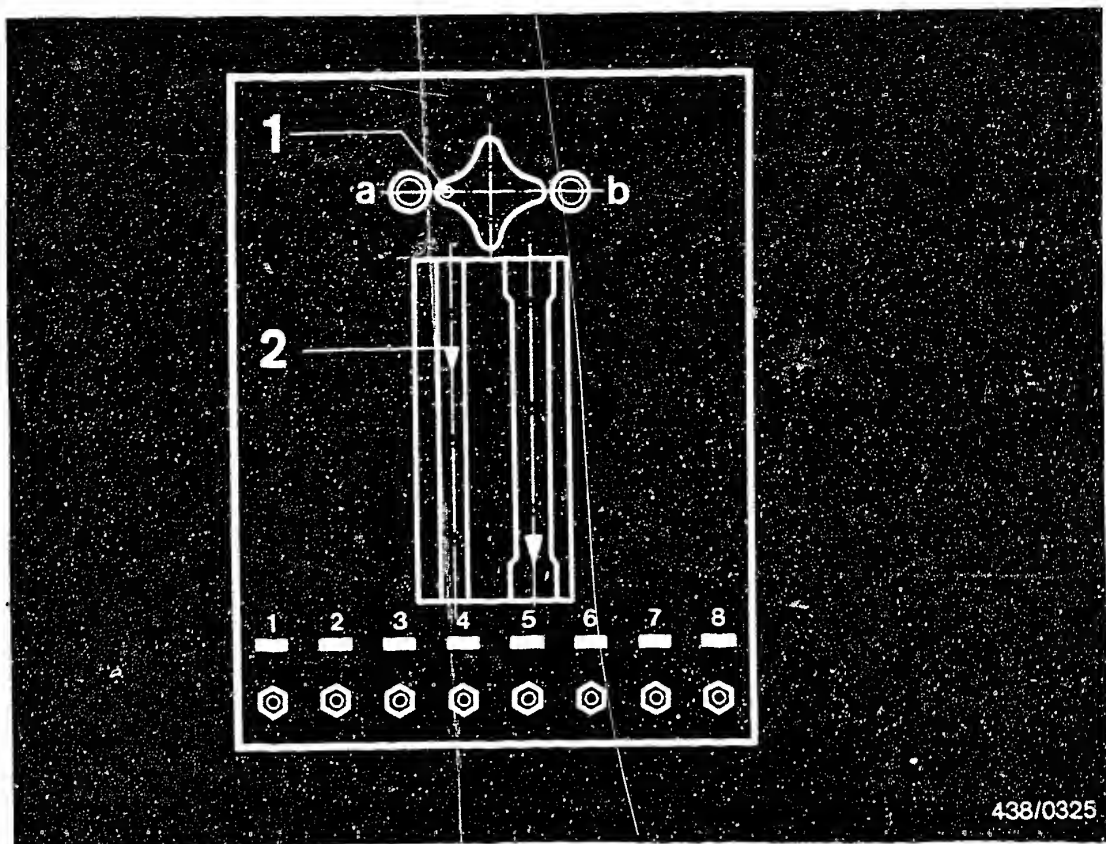
1 = White dot a = Idle
2 = Measuring line b = Part load/full load.

18.5 Testing

The flow comparison measurement is made in the idle, part-load and full-load ranges.

The small rotameter tube is to be used for the idle measurement (white dot to the left on control knob); part-load and full-load measurements are made using the large rotameter tube (white dot to the right).





438/0325

1 = White dot a = Idle
 2 = Measuring line b = Part load/full load

The delivered quantities indicated on the rotameter tubes are read off at the top edge of the conical float (Item 2). On testers with a ball float the uppermost point of the ball is used for reading off. With each measurement be sure to wait until the float has reached its final position. This may take 20 ... 30 seconds in the case of small deliveries.

E20

Comparative measurement of fuel delivery
 Peugeot 604 Ti, 504 Ti Coupé





X38/0326

The exact setting and locating of the position of the air-flow sensor plate for the various load ranges is done using the setting device KDJE 7456.

With the adjusting screw initially screwed all the way out, the setting device is clamped onto the stop bracket of the air funnel (arrow).

Adjust the position of the air-flow sensor plate using the adjusting screw.



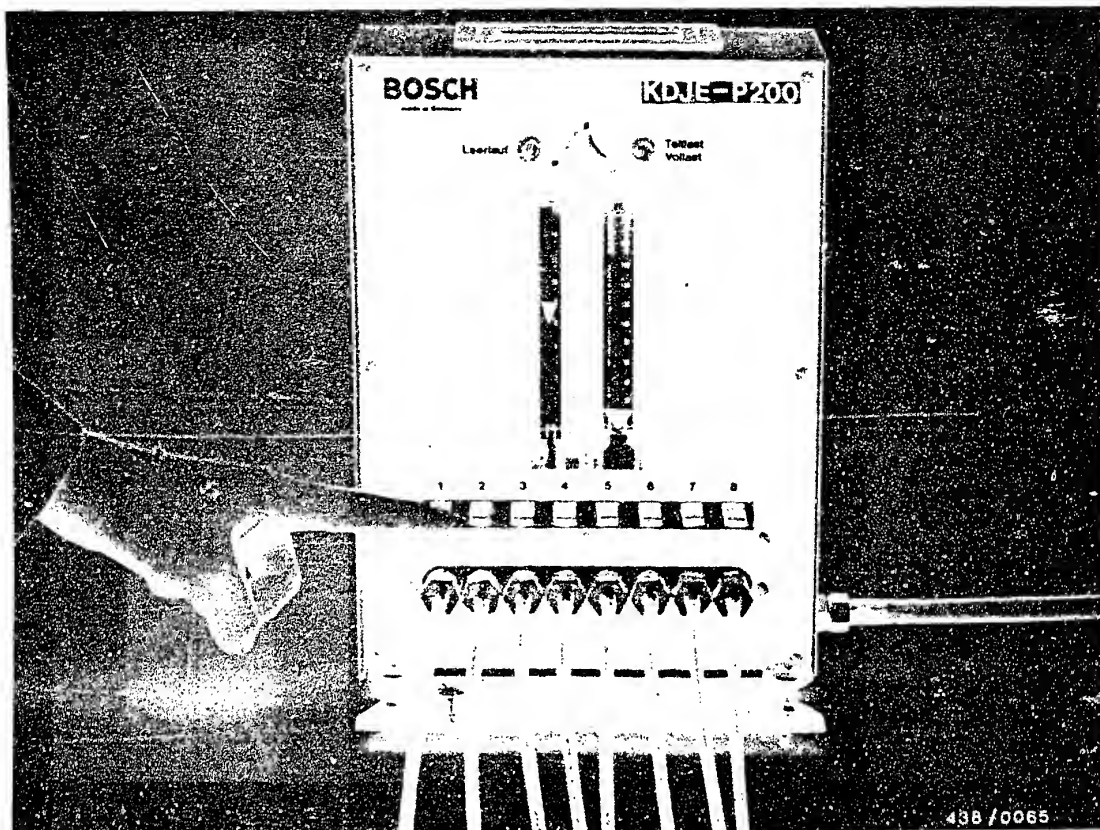
Procedure:

Switch on the electric fuel pump by bridging the electrical safety circuit.

Fixed numerical values are specified in the following test section for the maximum permissible fuel delivery differences for the individual load ranges.

The "setpoint" value always pertains to the fuel-distributor outlet with the lowest fuel delivery, i.e. in each case the outlet with the lowest delivery is to be first ascertained.





Press the key for outlet 1. Pivot the air-flow sensor plate until the corresponding rotameter tube approximately indicates the "set point" value. Fix the air-flow sensor plate in this position.

Test the remaining outlets in order to determine which outlet has the lowest fuel delivery.

Press the key for this outlet again, and set the delivery precisely to the "set point" by correcting the position of the air-flow sensor plate. Then fix the air-flow sensor plate in this position again.

Press the remaining keys one after the other, and determine the maximum fuel delivery of each outlet. A deviation in fuel delivery can only be above the "set point".



18.6 Test specifications

Fuel distributor No.	Set point (cm ³ /min)	Max. permissible fuel delivery (cm ³ /min)
0 438 100 035		
0 438 100 120		
Idle	6.0	6.8
Part load	40.0	44.0
Full load	145.0	160.0

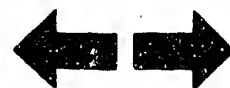
If, in testing, too large a difference is ascertained in one of the three load ranges, the test should for safety's sake be repeated.

If the result is confirmed, you should check whether the fault lies in the fuel distributor or in the injection valves.

To do this interchange the injection valves with the greatest and smallest difference.

If the result is still the same, the fault is in the fuel distributor. If the fault follows the interchanged injection valves, it lies in the injection valves.

Change defective fuel distributor and/or replace defective injection valves.



18.7 Final operations

Check the seal rings on the stem of the injection valves for damage and deformation. If necessary, use new seal rings (Renault service part).

Also check the insulating sleeves. If necessary, tighten with hexagon-socket-screw key (AF 12 mm).

Re-install the injection valves. Make sure this is done correctly. Also install the rubber dome. Make sure that all lines are laid correctly.

Re-connect the electrical safety circuit of the K-Jetronic (re-insert relay). Make sure this is done correctly. By means of a trial run check whether all line connections are leak-tight.

Finally, check the idle adjustment. Correct if necessary (Coordinates F 2).



19. Idle adjustment

19.1 Test conditions:

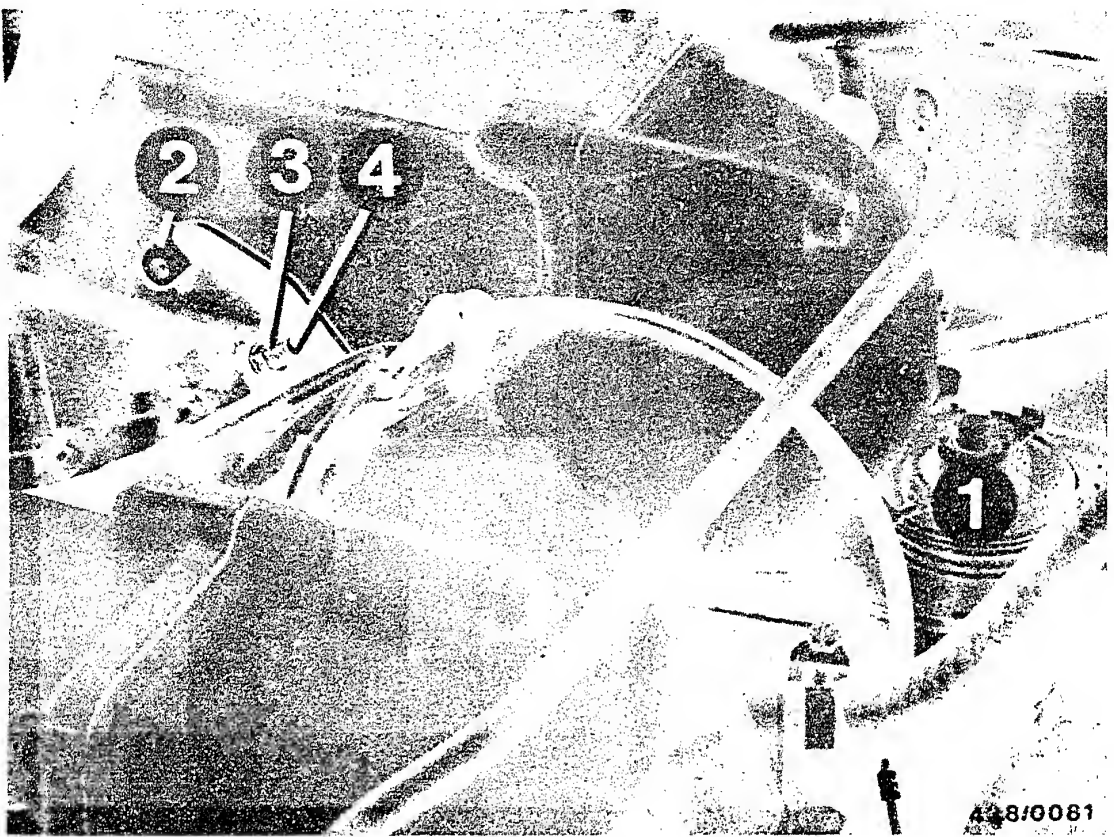
Warm up the engine for the idle adjustment.

Important:

- If fuel-injection lines or injection valves have been loosened or removed, warm up the engine under load. The low fuel throughput at idle is not always sufficient to bleed the fuel-injection lines.
- The idle adjustment must not be carried out when the engine is too hot, e.g. immediately after the engine has been raced or after a power measurement on the rollertype test stand.
- In vehicles with an air conditioner, switch the air conditioner off when performing the idle adjustment in order to stabilize the engine speed.

Measure the engine speed with a separate tachometer.





4-8/0081

19.2 Checking/adjusting the basic setting of the throttle-valve lever

Unhook the connecting rod between roller (1) and lever (2).

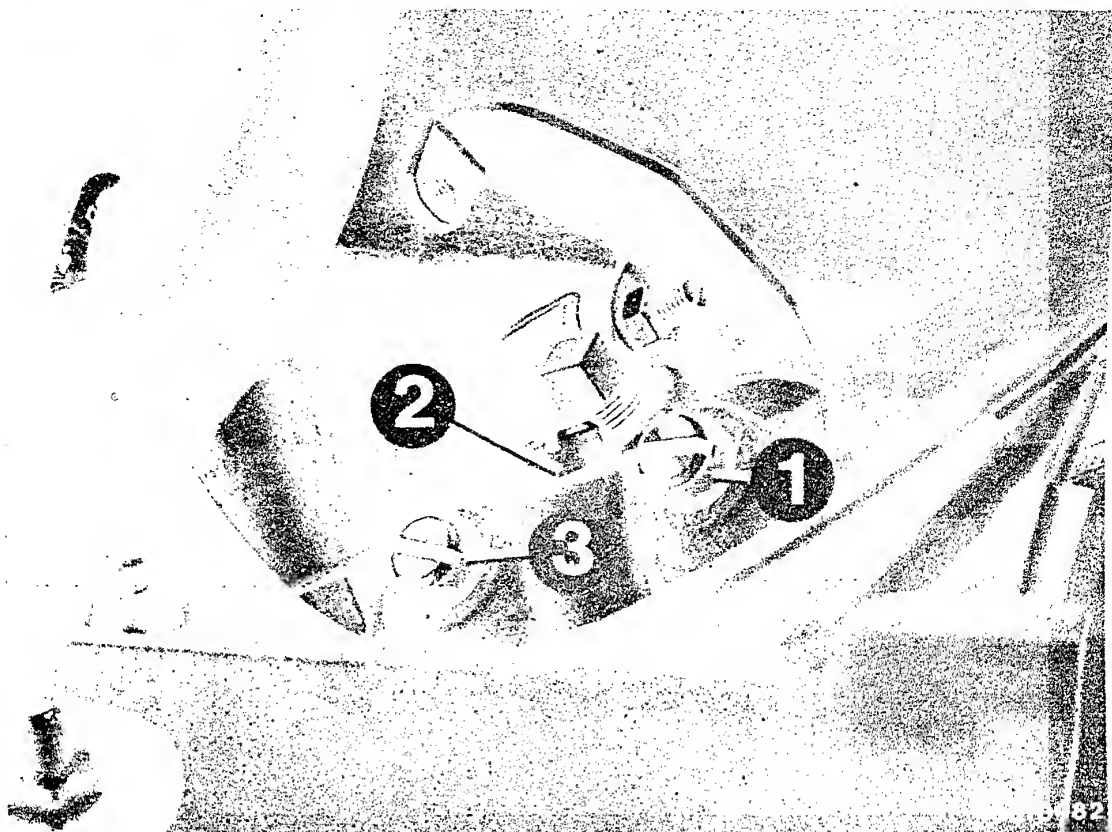
Loosen lock nut (3).

Back off the adjusting screw (4) and then screw it in until it makes contact with the stop. Then turn it further by precisely one revolution and lock.

Adjust the length of the connecting rod so that it can be hooked in free of tension.

Adjust the throttle cable with respect to the roller so that the wire cable is taut, but so that the throttle-valve lever does not lift off from the stop.





19.3 Adjusting the idle speed

In the throttle housing there are 3 idle-speed adjusting screws.

Screw 1 is for the right-hand cylinder bank.

Screw 2 is for the left-hand cylinder bank.

Screw 3 is for the overall adjustment.

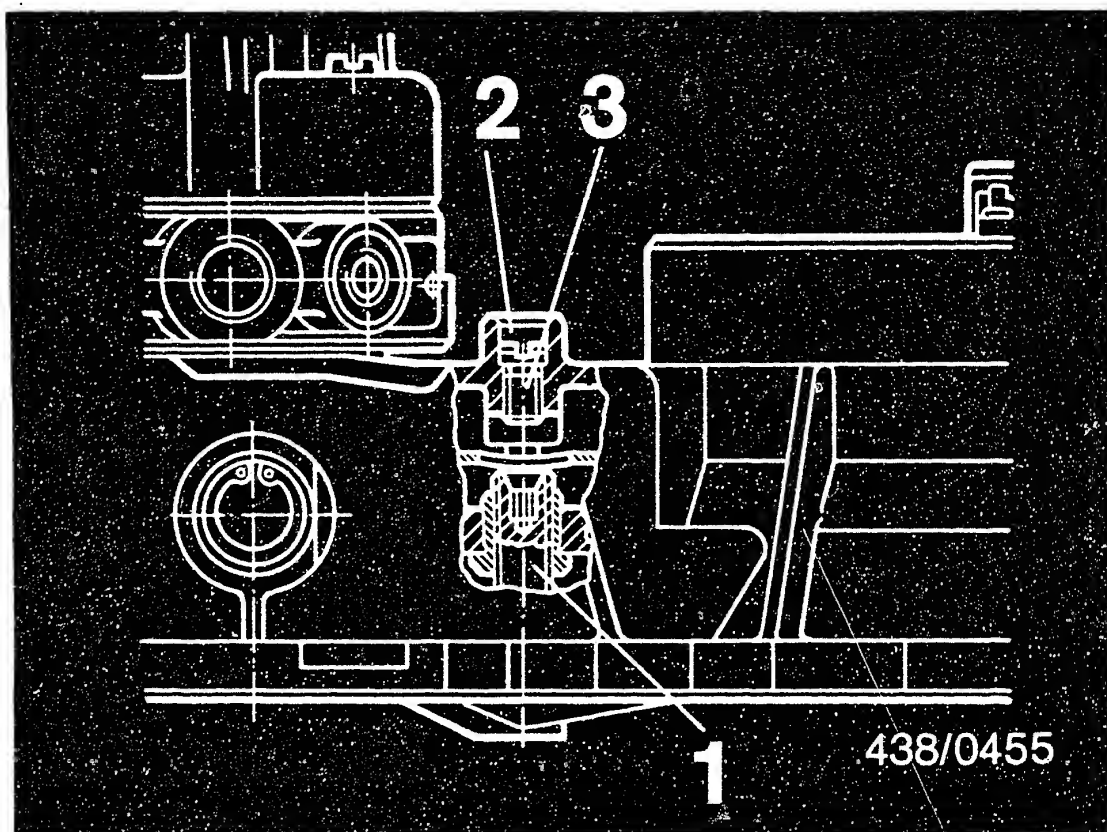
Note: The right-hand intake manifold leads to the left-hand cylinder bank and vice versa.

Basic setting of the adjusting screws:

Screw in screws 1 and 2 as far as they will go. Then back off by 4 revolutions. Connect the exhaust-gas sampling hoses and warm up the engine.

The idle speed is set at screw 3.





19.4 Adjusting the CO concentration

Adjust the CO concentration by turning the idle-mixture-adjusting screw (1) in the mixture-control unit using the setting wrench KDEP 1035.

The idle-mixture-adjusting screw is accessible after removing the safety plug (2) and the screw plug (3) in the air-flow sensor housing.

The setting wrench KDEP 1035 is inserted through the housing bore into the idle-mixture-adjusting screw.

Turning to the right = richer mixture

Turning to the left = leaner mixture

Caution:

Always make the adjustment from the lean side, i.e. if the mixture is too rich turn the idle-mixture-adjusting screw further to the left than is necessary, and then turn it to the right up to the setting required.

After every adjustment remove the adjusting wrench and accelerate the engine briefly so that the intake passages cool down. Then wait until the reading on the CO analyzer has settled. Never accelerate the engine with the adjusting wrench still in place because this could result in bending the control lever in the air-flow sensor.

Note:

The screw plug for the idle-mixture-adjusting screw must be screwed in again after each adjustment since, with the downdraft air-flow sensor, unmetered air is drawn in through this bore, thereby making the measurement results incorrect.



19.5 Anti-tamper device for idle-mixture screw:

In the Federal Republic of Germany, in accordance with an order for amending the Road Traffic Registration Code, § 47, Exhaust Gases and Their Discharge, has been amended. This order was printed in full in the Verkehrsblatt 13 of 15 July 1975.

Accordingly, all motor vehicles with externally supplied ignition produced as of 1 October 1976 must be provided with anti-tamper devices for the idle-mixture-adjusting screw so that it is not possible to adjust the screw without destroying the anti-tamper device. The intention is to prevent non-experts from re-adjusting the idle setting and thus inadmissibly influencing the exhaust gas. Consequently, the anti-tamper caps may only be used in the workshop and must not be sold to customers for their own use.

These anti-tamper caps come in different colours. Use the following cap and colour for the after-sales service:

In the downdraft air-flow sensor:

Blue anti-tamper cap (not obtainable from Bosch).

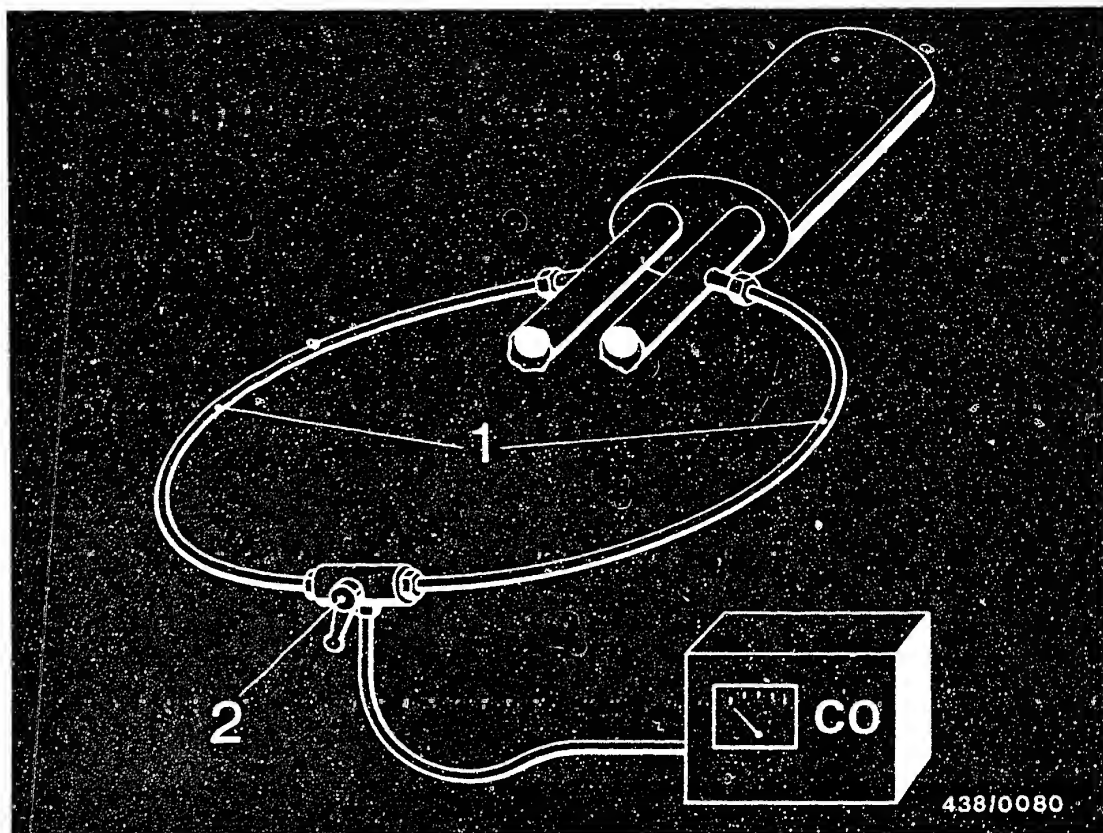
Part No. of Daimler Benz 000.997. 5986

Of Deutsche Vergaser Gesellschaft: K 34 520

The housing bore (for receiving the adjusting wrench) is sealed by a plug.

The anti-tamper device is removed and fitted using special tools (e.g. tool set No. 4521/7 from Hazet Co., 5630 Remscheid).





19.6 Exhaust-gas sample and measurement

The exhaust-gas sample for the CO measurement is carried out separately for each row of cylinders in the connecting fittings on the exhaust pipes.

The picture shows an exhaust-gas sample set as an example of a user-fabricated device.

The two hoses (1) must be resistant to the exhaust temperatures and should be connected to a commercially-available three-way change-over cock (2). The bore diameter of the three-way change-over cock must not be less than 4 mm.

Switch the three-way cock to the middle position for the exhaust-gas sample. Exhaust-gas samples are then taken for both rows of cylinders.

The CO-value must correspond to the details given. If necessary, adjust by means of the idle-mixture adjustment screw in the mixture-control unit.

Please note

The screw plug for the idle-mixture adjusting screw must be screwed in again after each adjustment, since otherwise the downdraft air-flow sensor will suck in extra air at this bore and a false reading will be given.

If necessary, adjust the idle speed at the adjusting screw 3 after correcting the CO-adjustment.

Then check the CO-value of each row of cylinders individually by switching over the three-way cock. Correct at the adjustment screw 1 or 2, until both rows of cylinders are set at the correct and same values at the correct idle speed.

All adjustments (speed, CO-value of both rows of cylinders, total CO-value) must, under circumstances, be repeated several times until all values are within the range prescribed.

19.7 Idle test and adjustment values

- Prerequisites:
engine in warm operating condition - air-conditioning switched off
- Idle speed: 850...950 min⁻¹
- CO-content:
for each row of cylinders 1.5...2.5 vol. % CO



After-sales Service

Technical Bulletin

Only for use within the Bosch organization. Not to be communicated to any third party.

Packaging of goods under warranty

K-Jetronic (CIS)

438

VDT-I-438/101 B
10. 1976

All components or assemblies of the K-Jetronic which are dispatched under warranty must be correctly and carefully packaged so that no further damage or impairments occur during transit, since these would not be covered by warranty.

Any fuel remnants must be removed from those K-Jetronic assemblies intended for dispatch, so as to eliminate any danger of fire during transit.

The intake openings and outlets of the assemblies must be sealed off with caps or plugs. As new products were fitted, the caps or plugs from these may be used.

The plunger of the fuel distributor is to be fitted with a protective cap of adequate size, or secured to the fuel distributor.

In addition, the assemblies are packed in tightly packed, well-sealed plastic sleeves. Fuel distributors and warm-up regulators are packed individually.

If components arrive damaged due to incorrect packaging or do not comply with these instructions, they can be returned and the warranty claim rejected.

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L1

Technical Bulletin

Peugeot 604 Ti, 504 Ti Coupé



After-sales Service

Technical Bulletin

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Securing of idle-speed adjusting screws

K-Jetronic (CIS)

438

VDT-I-438/102 B
11.1976

According to a statutory regulation, changes have been made to § 47 of the German traffic licensing laws concerning exhaust gases and their outlets. This regulation was printed in full in traffic law sheet 13 of 15.7.75.

Consequently, all motor vehicles with external-ignition engines must have their idle-speed adjusting devices secured from the 1st October 1976, so that adjustment of the screw is impossible without destroying the securing device. This should stop unskilled people from adjusting the installation of the idle-speed system and thereby illegally influencing the emission values. As from now, securing caps can only be used in the workshop and cannot be sold to customers for their own use.

Securing caps are produced in various colors. For after-sales service the following caps and colors are used:

downdraft air-flow sensor

Blue

securing cap is not available from BOSCH.

Part number is DB 000.997.59 86 from the
Deutsche Vergaser Gesellschaft K 34 520

updraft air-flow sensor

Red

Part number 3 430 522 002

These stipulations are only valid in countries where ECE regulations (Economic Commission for Europe) apply. The air-flow sensors must however be converted for the use of these securing caps, as a matter of principle. The caps can also be used in countries not subject to ECE regulations, to prevent dirt penetrating through the pipe to the adjustment in the case of updraft air-flow sensors.

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Technical Bulletin

Peugeot 604 Ti, 504 Ti Coupé



After-sales Service

Technical Bulletin

Only for use within the Bosch organization. Not to be communicated to any third party.

EXCHANGEABLE NON-RETURN VALVES
in electric fuel pumps 0 580 254 ..

VDT-I-438/104 En

5.1982

(replaces Ed. 3.1982)

Electric fuel pump	Parts set (non-return valve + seal ring)	Non-return valve	Seal ring
0 580 254 001	1 587 010 500	---	---
.. 002	.. 500	---	---
.. 950 }	1 587 010 006	---	---
.. 951 }	1 587 010 002	---	---
.. 952	.. 501	---	---
.. 953	.. 002	---	---
.. 954	.. 002	---	---
.. 956	.. 002	---	---
.. 957	.. 002	---	---
.. 958	.. 002	---	---
.. 959	.. 002	---	---
.. 960	.. 002	---	---
.. 961	.. 002	---	---
.. 962	.. 002	---	---
.. 963	.. 005	---	---
.. 964	.. 002	---	---
.. 965	.. 002	---	---
.. 966	.. 002	---	---
.. 967	.. 002	---	---
.. 968	.. 002	---	---
.. 969	.. 002	---	---
.. 970	.. 002	---	---
.. 971	.. 002	---	---
.. 972	.. 002	---	---
.. 973	.. 002	---	---
.. 974	.. 002	---	---
.. 975	.. 003 4	---	---
.. 976	.. 004 3	---	---
.. 977	.. 004 3	---	---
.. 978	1 587 410 901	---	---
.. 979	010 004 3	---	---
.. 980	.. 002	---	---
.. 981	.. 002	---	---

³ = Parts set ... 003 also possible (delivery line connection at 90°)

⁴ = Parts set ... 004 also possible (delivery line connection axial)



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Technical Bulletin

Peugeot 604 Ti, 504 Ti Coupé



Electric fuel pump	Parts set (non-return valve + seal ring)	Non-return valve	Seal ring
.. 982 ¹	.. 003 ⁴	---	---
.. 982 ²	1 587 410 901	---	---
.. 984	010 004 ³	---	---
0 580 254 985	---	1 583 385 006	1 580 203 002
.. 986	---	.. 386 011	.. 001
.. 987	--- 008	.. 001
.. 988	--- 008	.. 001
.. 989	--- 008	.. 001
.. 990	---	.. 385 004	.. 002
.. 991	---	.. 004	.. 002
.. 992	1 587 010 001	---	---
.. 996	---	.. 386 011	.. 001
.. 998	---	.. 385 004	.. 002

1 = until FD 822

2 = from FD 823

3 = Parts set ... 003 also possible (delivery line connection at 90°)

4 = Parts set ... 004 also possible (delivery line connection axial)

Please direct questions and comments concerning the contents to our authorized representative in your country.



After-sales Service

Technical Bulletin

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HOT-STARTING PROBLEMS

438

VDT-I-438/105 En

3.1980

K-Jetronic

Replaces Ed. 2.1980

Hot-starting problems can occur in various vehicles fitted with K-Jetronic. This means that when an engine is switched off whilst still hot and then switched on again after a short period, it does not start as well as it should.

The engine, the ignition system and the K-Jetronic system in these vehicles should be carefully checked. With the K-Jetronic particular attention should be paid to the:

- complete system (in case of leaks),
- injection valves (in case of leaks),
- correct position of the air-flow sensor plate (rest position).

Instructions can be found in the vehicle-related repair manuals VDT-W-438/5..

If the engine still does not start satisfactorily when hot, even after checking, a timing relay can be fitted in K-Jetronic systems which are not equipped with a solenoid valve for reducing the control pressure as additional starting help.

Timing relay 0 340 000 003 controls the start valve during hot starts. The start valve then injects extra fuel intermittently (sometimes cutting out completely).

The timing valve is fitted according to the wiring diagram (see reverse side). The fitting of this relay will be charged for.

After fitting the timing relay starting should be carried out as follows:

Vehicles with start valve in intake manifold - with open throttle valve,
Vehicles with start valve in idle duct - with closed throttle valve.

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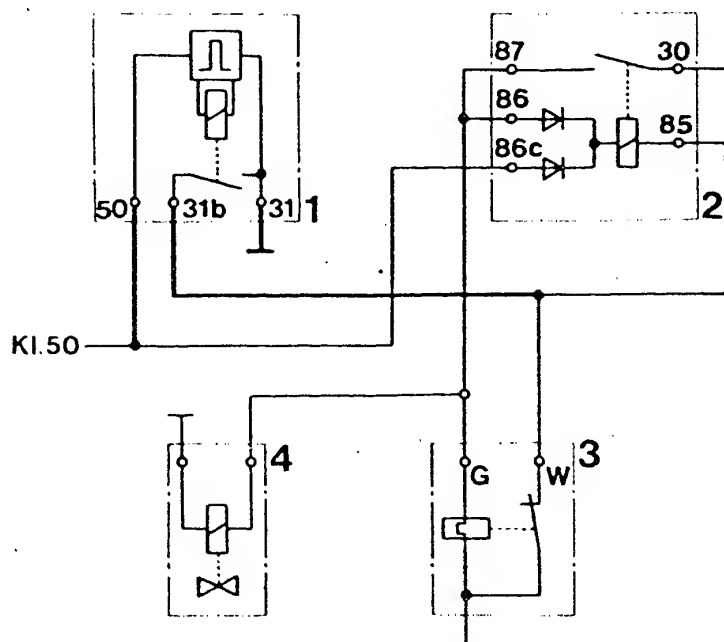
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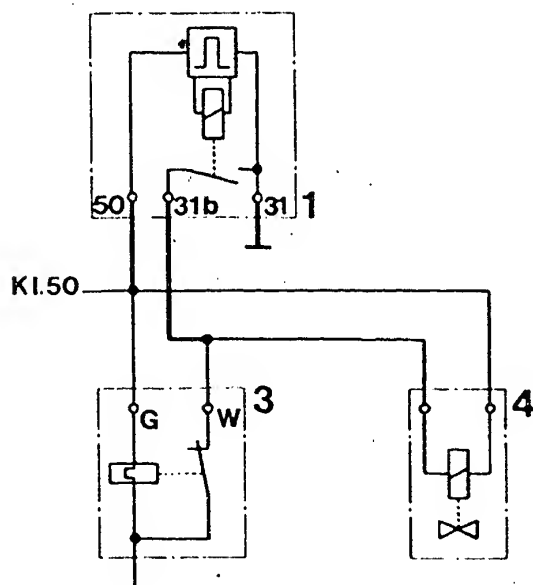
Peugeot 604 Ti, 504 Ti Coupé





K-Jetronic system with post-injection relay

- 1 = Timing relay 0.340 000 003
- 2 = Post-injection relay
- 3 = Thermo-time switch
- 4 = Start valve



K-Jetronic system without post-injection relay



After-sales Service

Technical Bulletin

Only for use within the Bosch organization. Not to be communicated to any third party.

FIRMLY FITTED NON-RETURN VALVE

VDT-I-438/107 En

Repairs

5.1980

fuel pumps 0 580 254 ...

Previously fuel pumps with non-exchangeable non-return valve (see VDT-I-438/104 En) had to be exchanged completely in cases of leakage in the non-return valve.

If the fuel pump is in working order and only the non-return valve leaks, there is now the possibility of repairs as part of after-sales service. 2 parts sets have been produced for this purpose, they contain, amongst other things, a tube fitting with built-in non-return valve.

Before using the parts set the installation conditions should be checked. The defective non-return valve can remain in the fuel pump which does not have to be dismantled for fitting the parts set. Before disconnecting the fuel lines the pressure fittings of the fuel pump and the fuel lines should be thoroughly cleaned.

Description and fitting

Parts set 1 587 010 003 for fuel connection with inlet union.

Screw the tube fitting (short side) with the thick flat seal ring into the pressure fitting and tighten. In doing so press against the hexagon of the pressure fitting with a wrench. Place the thin flat seal ring, the fuel-line inlet union and the other flat seal ring on to the long side of the tube fitting and tighten with the hexagon cap nut. Run the engine and check that there are no leaks in the connection.

Parts set 1 587 010 004 for fuel connection with nipple and union nut.

Screw the tube fitting with flat seal ring into the pressure fitting and tighten. In doing so press against the hexagon of the pressure fitting with a wrench. Screw the fuel line to the tube fitting with a union nut and tighten. Run the engine and check that there are no leaks in the connection.

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L7

Technical Bulletin

Peugeot 604 Ti, 504 Ti Coupé



After-sales Service

Motor Vehicle Service Information

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PEUGEOT 505 TI/STI

604 TI

with K-Jetronic

VDT-I-PEU 015 En

6.1981

Replaces Ed. 7.1979

Failure of the electric fuel-pump

In the above mentioned vehicles Peugeot have fitted a prefilter in front of the electric fuel pump.

This prefilter is available in two designs: with plastic casing or with metal casing.

In the prefilter with metal casing small plastic particles work themselves loose after a short time. This leads to blocking of the electric fuel-pump (roller cell pump).

Remedy

The prefilter with metal casing should be removed and replaced by the prefilter with plastic casing. The faulty electric fuel-pump should also be replaced.

The prefilter is not a Bosch product and must be obtained from Peugeot.

No guarantee or fair-deal claims can be accepted for electric fuel-pumps which have failed due to defective prefilters.

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Service Information

Peugeot 504 Ti, 604 Ti Coupé



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